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NATIONAL ASSOCIATION OF INDUSTRIAL TECHNOLOGY
2005 BETA STANDARDS: AN EVALUATIVE STUDY OF THE
THOMAS W. REESE GRAPHIC ARTS AND IMAGING TECHNOLOGY PROGRAM

A Thesis

by

Eleanor Walker Massey

Submitted to the Graduate School

Appalachian State University

In partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2006

Major Department: Technology

NATIONAL ASSOCIATION OF INDUSTRIAL TECHNOLOGY
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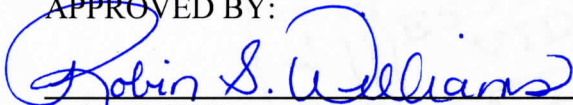
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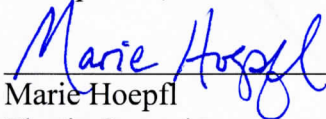
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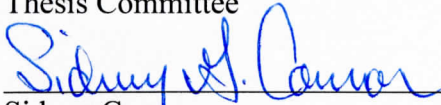
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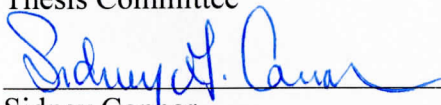
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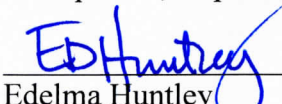
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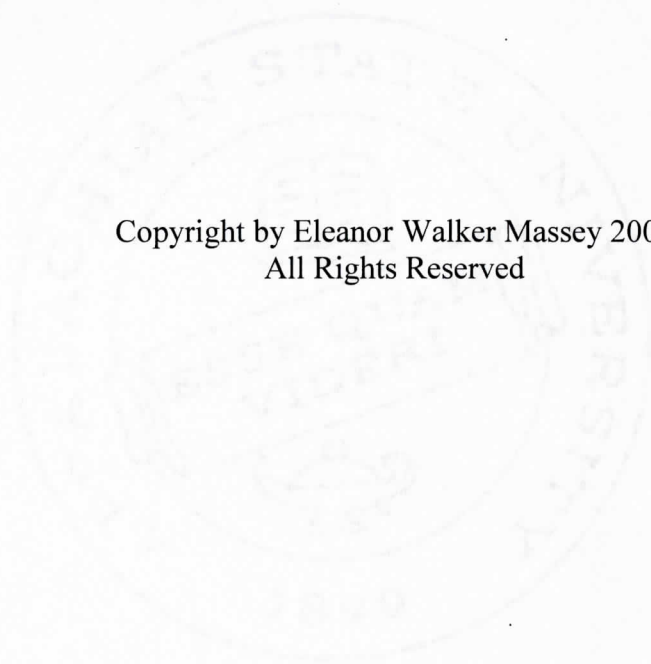


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ABSTRACT

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2005 BETA STANDARDS: AN EVALUATIVE STUDY OF THE
THOMAS W. REESE GRAPHIC ARTS AND IMAGING TECHNOLOGY PROGRAM

(May 2006)

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The Thomas W. Reese Graphic Arts and Imaging Technology (GAIT) program of Appalachian State University has yet to pursue examination from an outside reviewer through self-assessment based on national standards. Therefore, the sixteen 2005 beta standards of the National Association of Industrial Technology (NAIT) were chosen as a tool of self-assessment for GAIT. The objective of this research was to determine if the GAIT program currently meets all 16 standards at a level of compliance for accreditation by NAIT. After comparisons were made, recommended changes for standard compliance were provided for those areas within the standard where the GAIT program was not meeting the requirements. The three most significant recommendations for the administrators of the GAIT program are develop a written and publicized assessment plan, generate program-specific learning outcomes, and adopt a method of tracking program changes.

Acknowledgements

This product would not be the success it is without the influence, advising, and assistance of the following people:

My thesis advising committee, Dr. Robin Williams, Dr. Marie Hoepfl, and Dr. Sidney Connor, for your investment in me through sacrifice of your time, energy, and expertise. Thank you for the wise advice, the kind words, and the encouragement to persevere.

The GAIT faculty for their time and energy in answering my many questions and providing materials useful in completing this analysis.

My family, Rob, Nicholas, and Robin, who have experienced this process along side me as my loudest cheering section and my motivation to finish strong.

Mom, Dad, and Meme and Papa each of you have given me encouragement throughout this journey without which I know I would have suffered. Thank you for believing in me and helping me to always believe in myself.

Dedication

I humbly dedicate this product to those individuals who continue to believe in me, encourage me, and who endured through my absence (physical, emotional, or cognitive). I'd specifically like to recognize my love, Rob Massey, who instantly became Mr. Mom and seemed to enjoy the transition. For the continuous support in so many ways and the subtle cheers for my success. To my beautiful children who inspire me with their pure joy and tenacity. All of you have made sacrifices on my behalf. I acknowledge what you have done for me and look forward to sharing my successes with you.

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Chapter 1 Introduction

Statement of the Problem

Appalachian State University (ASU) is located in Boone, North Carolina and is one of the 16 institutions of the North Carolina State University System. ASU is a regionally accredited university, and several departments and programs within the university hold accreditation status related to professional organizations or governing bodies. However, most of the programs in the Department of Technology at ASU are not accredited. The single exception is Technology Education, which is accredited by the National Council for Accreditation of Teacher Education (NCATE) and by the North Carolina Department of Public Instruction (NCDPI). Without having withstood the rigor of accreditation review by a specialized accrediting agency, administrators and faculty of the Department of Technology can only assume that the courses offered, degree guidelines, facility, and faculty qualifications are current and productive and are providing a high quality education to undergraduates in the field of technology. A self-study of this magnitude provides an opportunity for the administration and faculty to explore areas of success as well as those in need of improvement within a program.

The information collected through this research will assist the Thomas W. Reese Graphic Arts and Imaging Technology program (GAIT) faculty and Department of Technology administration in accelerating an application process for accreditation. More specifically, these results will serve as an example to other Department of Technology

faculty regarding the processes used to complete the appropriate self-study based on NAIT standards for their programs.

Through this research, the GAIT program at ASU has been evaluated using the 16 accreditation beta standards required by NAIT. Depending on the level to which GAIT met these standard's requirements, appropriate recommendations for improvement are included in this study and will be provided to the GAIT Program Coordinator and Department of Technology Chairperson.

Research Questions

The research questions for this project are:

- 1) Does ASU's GAIT program (or the Department of Technology, where necessary) currently fall in compliance with all 16 NAIT standards?
- 2) If, at any level, these standards are not being met, what changes are necessary to meet these standards?

Definition of Terms

Competencies: "...are the result of integrative learning experiences in which skills, abilities, and knowledge interact to form bundles that have currency in relation to the task for which they are assembled" (National Postsecondary Education Cooperative, September 2002, p. 7).

Evidence: "A thing or things helpful in forming a conclusion or judgment; To indicate clearly; exemplify or prove" (Dictionary.com, 2005, *Evidence*). Written documentation which clearly supports a verbal or written statement.

Goal: “The purpose toward which an endeavor is directed; an objective”

(Dictionary.com, 2005, *Goals*).

Learning Outcomes: “... are statements that specify what learners will know or be able to do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes” (American Association of Law Libraries, 2006, 2nd ¶).

Mission: “a summary describing the aims, values, and overall plan of an organization or individual” (Dictionary.com, 2005, *Mission Statement*).

Delimitations and Limitations

Although the focus of this research is to indicate compliance solely of the Department of Technology’s GAIT program, this same intent is a limitation as well. This research is a compilation of findings specific to the GAIT program within the Department of Technology at ASU. In its entirety, these results are not applicable to any other university, Industrial Technology program, or graphic communications program.

In addition, these results are further limited to the academic term in which they have been collected: the 2005-2006 academic year. Depending on pending changes in ASU’s General Education core curriculum requirements, GAIT curriculum requirements, GAIT course syllabi, faculty, or equipment, these same findings may be compromised or invalidated as early as the following semester.

NAIT does not provide definitions for assessment terms found in each standard. While not a major hindrance to this research process, the lack of definitions has resulted in limitations. Without providing consistency in meaning, NAIT has by default allowed the institution to generate relevant definitions of each standards’ terms. This could result

in confusion and discrepancy for the institution under review, among accrediting team members, and ultimately among the accreditation board. A list of terms and their definitions has been generated for the purpose of this research.

Finally, as a federal agency of the United States, the United States Department of Education is well recognized in supporting educational needs across the United States. The U.S. Department of Education (DOE) does not provide accreditation to higher education institutions; however, it does provide a list of recognized accrediting bodies known as the National Institutional and Specialized Accrediting Bodies (United States Department of Education, 2005b). Obtaining recognition by the DOE involves a voluntary application process which is reviewed by the National Advisory Committee on Institutional Quality and Integrity (United States Department of Education, 2005c). In the past, NAIT had been recognized by the DOE as a member of the National Institutional and Specialized Accrediting Bodies. However, the DOE went through policy changes resulting in discontinued recognition of organizations that did not receive Title IV funds. Since NAIT pulls down these funds, they were dropped by the DOE as a recognized specialized accrediting agency. NAIT executives and governing board members acknowledged the need for NAIT to be identified by a nationally known group as a valid and useful accrediting body. Since the changes brought on by the DOE's change in Title IV funds, NAIT accreditation has been "recognized by the National Commission on Accrediting (NCA), Council of Post-secondary Accreditation (COPA), and [is] currently recognized by the Council for Higher Education Accreditation (CHEA) since January 21, 2002" (Rick Coscarelli, personal communication, January 11, 2006).

Significance of the Study

This provides a critical analysis of current practices of ASU's Department of Technology's GAIT Program against NAIT's self-assessment standards. The result of this process will contribute to the eventual accreditation of Appalachian State University's Department of Technology GAIT program. The results of this research will assist departmental administrators and faculty with methods and provide tools for conducting a self-assessment for NAIT accreditation preparations. Furthermore, this research will serve as a catalyst in the process of accreditation for other programs within ASU's Department of Technology. A self-assessment of this magnitude provides an opportunity for the administration and faculty to identify areas of excellence as well as those in need of improvement within the program. In addition to the GAIT program, ultimately many will benefit from this research, including the entire Department of Technology, the College of Fine and Applied Arts, Appalachian State University, current and future students of technology at Appalachian, the public, and the employers of the ASU graduates. Finally, this research provided an opportunity for beta testing of NAIT's accreditation self-assessment tool. This process has fostered the opportunity to offer suggestions to NAIT for the improvements of their instrument.

Chapter 2

Review of Literature

Accreditation

There are many entities governing society: taxes influence our finances, automobiles are inspected and approved for road use, and educational standards are set for public grade school. However, as opposed to the public K-12 school system that is governed through collaboration at the national, state, and local levels, higher education has no such holistic governing system. This lack of continuity leads to a discrepancy among post-secondary education disciplines. In the absence of formal governance, there is no particular body creating order among academics, implementing best practices, governing tenure and promotion, or insuring quality employment and education within universities in the United States. Therefore, “the practice of accreditation arose in the United States as a means of conducting non-governmental, peer evaluation of educational institutions and programs” (United States Department of Education, 2005a, 2nd ¶).

The benefits to obtaining accredited status from a recognized institution are clearly summarized by the American Psychological Association:

As a student: Accreditation provides assurance that the program in which you are enrolled or are considering enrolling is engaged in continuous review and improvement of its quality, that it meets nationally endorsed standards in the profession, and that it is accountable for achieving what it sets out to do.

As a faculty member: Accreditation provides a formal process for ongoing evaluation and improvement of your program and faculty development outcomes, a process by which faculty, students, and administration can work together in advancing the educational institution's mission.

As a member of the public: Accreditation ensures public accountability of a program or an institution -- that it has the means and demonstrates the outcomes for its educational process that are consistent with its goals and objectives; in other words, that there is "truth in advertising" (American Psychological Association, n.d., 2nd, 3rd, and 5th ¶).

Self-assessment

A component of university accreditation is the self-assessment (or self-study). This process is initiated by the university wishing to hold accreditation by a recognized accrediting body. Throughout the self-study process, representatives of the university, department, and/or program seeking accreditation prepare "an in-depth self-evaluation study that measures... performance against the standards established by the accrediting agency" (United States Department of Education, 2005a, 4th ¶). The self-study provides an opportunity for an institution to compare such areas as curriculum, instructor qualifications, and facilities against the guidelines established by the accrediting body for the purposes of applying for accreditation, general information gathering, or program improvement.

The accreditation process is indeed a living concept as many accrediting bodies hold sessions of review at set intervals. Through this practice, the entire accreditation process is assessed, including the self-assessment standards. Through continual review, a new

model of self-assessment, the outcomes model, has become well established.

“Universities and accrediting bodies are moving toward the outcomes model of self-assessment” (Heather Langdon, personal communication, October 20, 2005). The outcomes model of self-assessment provides an opportunity for universities to generate evidence in support of (or revealing improvement needs among) questions such as those outlined by Walvoord (2004):

1) We’re spending time and resources trying to achieve student learning - is it working? 2) When we claim to be graduating students with qualities like “critical thinking” or “scientific literacy” do we have evidence of our claims? 3) We have the impression that our students are weak in area X—would more systematic research back up this impression and help us understand the weakness more thoroughly? 4) When we identify weaknesses in our students’ learning, how can we best address the problem? and 5) How can we improve learning most effectively in a time of tight resources? (p.6)

The difference between the outcomes model and previously used models is described by a Swiss educator as “open loop” versus “closed loop” systems (Swiatek, 2002, p.4). The *open loop* system focuses on only the academic inputs (see Figure 1).

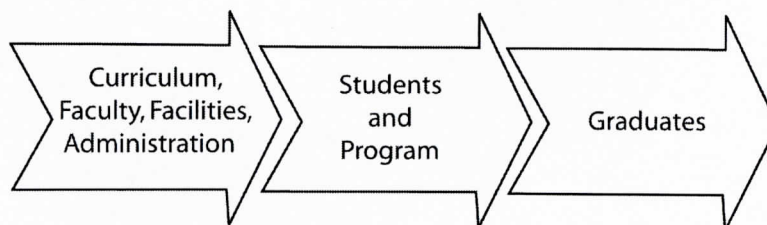


Figure 1: Open Loop illustration (adapted from Swiatek and Konczakowska, 2001)

When using this model, an institution examines internal parameters in areas such as the facilities, curriculum, and faculty. The *closed loop* system, or outcomes model, expands on the open loop system to include further feedback from graduates and their employers concerning the education a person gains from an institution (see Figure 2).

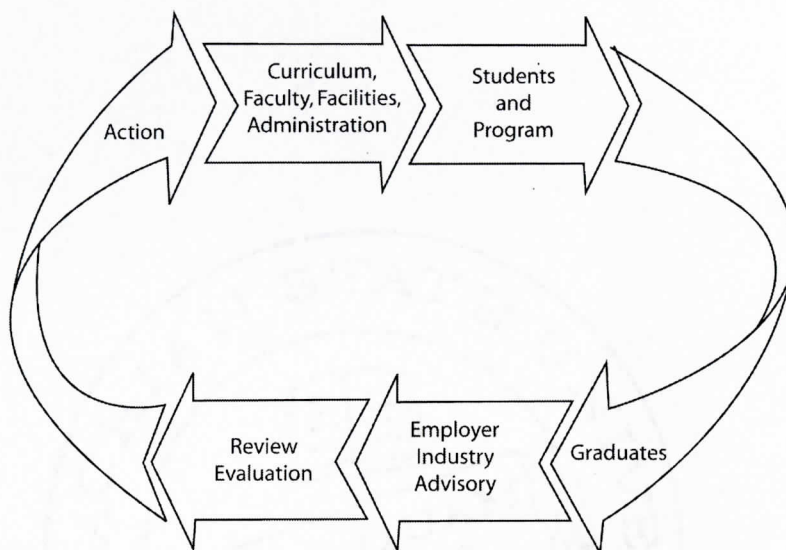


Figure 2: Closed Loop illustration (adapted from Swiatek and Konczakowska, 2001)

In the closed loop process, learning outcomes are established from a program (or department) mission and goals. These measurable outcomes define areas students should master by graduation, because of completing the program. Concepts such as problem solving skills, success of working in teams, oral and written communication skills, interpersonal skills, and ability to place theory into practice are a few examples of components of learning outcomes (Peter Wachs, personal communication, November 2, 2005). While some of the above skills appear to be immeasurable, a common measurement tool for such assessment is a rubric. This tool requires assigning numeric value to observed behaviors and academic achievements. The learning outcomes are the standards for measuring current student progress as well as alumni and employer

opinions. The loop is closed when the results from alumni and their employers are evaluated and recommendations are made and incorporated into the program or university (where appropriate). The closed loop system for assessment is cyclical and provides continuous feedback and program improvement (Peter Wachs, personal communication, November 2, 2005).

Barbara Walvoord refers to this transition in university assessment as the *assessment movement* (2004, p.5) and describes four reasons leading toward this change. First, the assessment changes originated from outside the educational setting. As tuition fees began to steadily rise, industry representatives, lenders, government agencies, and others began to voice their disappointment in higher education. Those from outside the university questioned the quality of education provided by academic institutions and began charging universities to provide feedback and deliver evidence of quality that would justify rising tuition costs (Walvoord, 2004).

Second, reform in the approach to assessment soon began to arise from within the university. Higher education is progressing toward a general education curriculum reliant on outcomes through the implementation of concepts such as learning communities, writing designator courses, and problem-based learning curriculum. These changes, with direct intent for post-graduate success, provoke the need to assess students' learning outcomes (Walvoord, 2004).

Third, assessment of learning outcomes provides a university with valid evidence in support of the institution's success in providing quality education. This convincing evidence contributes to the university's marketability toward prospective students, faculty, lenders, and benefactors, and provides a strong defense in the face of

interuniversity competition, where institutions strive to prove themselves as the best-of-the-best (Walvoord, 2004).

Finally, those who generate public reports, from newspapers to broadcasters, have changed their focus over the past two decades and are now more performance-conscious and interested in reporting data. This data-driven focus forces universities to produce evidence of performance in order to be accurately represented through public media (Walvoord, 2004).

Accrediting Bodies: NAIT

Some university accrediting bodies are general in nature, providing accreditation to an entire university or specialized areas of an institution. The Southern Association of Colleges and Schools (SACS) is one example of a nationally recognized regional accrediting agency providing accreditation status to colleges and universities in the southeast (Southern Association of Colleges and Schools, 2005a). Others, such as the National Association of Industrial Technology (NAIT), specialize in a particular concentration of study. NAIT has evolved over the past four decades, as has the focus of the discipline.

Initially, the field of study was referred to by a different name and was educator focused, with the curriculum centered on preparing teachers of technology. After World War II, however, the focus quickly changed from education to industry. More often than not, graduates of industrial technology's teacher programs were finding technical hands-on employment within industry. This shift in career placement of graduates dictated a need for curriculum restructure. Soon, teaching courses were dropped and replaced with math, physics, and in-depth technical training. In addition, it was recognized that the

students investing in an industrial technology education were drawn to the “hands-on approach for developing technical competencies and appealed to those with a desire to work with their hands” (Keith, 1986, p.1). The new term Industrial Technology was generated as a means of more appropriately identifying the change in curriculum from education to industry (Keith, 1986).

Twenty-eight colleges (from 20 different states) were represented at the initial NAIT meeting held at Kent State University in Kent, Ohio in 1965. Spearheaded by Dr. Charles W. Keith, coordinator of Kent State University’s Industrial Technology program at the time, the meeting focused on issues and problems of a 4-year degree program (Keith, 1986).

The first two meetings laid the groundwork for the Association and much discussion revolved around what, at that time, was a dream of national recognition and possible accrediting credentials. By the third national meeting of industry and university representatives interested in the field of industrial technology, interest in formation of a recognized association grew. Therefore, it was timely that Dr. Charles W. Keith and others moved forward and in 1967 organized the National Association of Industrial Technology legally as a formal body. At the third meeting, governing councils were elected, task force teams were created, and NAIT was well on its way to becoming an accrediting body.

Today the National Association of Industrial Technology defines Industrial Technology as

...a field of study designed to prepare technical and/or technical management-oriented professionals for employment in business, industry, education, and

government. Industrial Technology degree programs and professionals in Industrial Technology careers typically will be involved with the:

- a. application of theories, concepts, and principles found in the humanities and the social and behavioral sciences, including a thorough grounding in communication skills.
- b. understanding of the theories and the ability to apply the principles and concepts of mathematics and science and the application of computer fundamentals.
- c. application of concepts derived from, and current skills developed in, a variety of technical and related disciplines which may include, but are not limited to, materials and production processes, industrial management and human relations, marketing, communications, electronics, and graphics.
- d. completion of a field of specialization, for example, electronic data processing, computer aided design, computer integrated manufacturing, manufacturing, construction, energy, polymers, printing, safety, or transportation. (National Association of Industrial Technology, 2003, section 1.2)

The purpose of NAIT accreditation is

... to provide recognition of the attainment of certain professional goals and standards for Industrial Technology. The secondary purpose is to encourage others to strive toward these goals and standards (National Association of Industrial Technology, 2003, p.1)

For compliance with NAIT self-assessment standards and to be considered for NAIT accreditation, a four-year university program must lead to completion of a Bachelor of Science degree. Additional requirements are outlined here:

Programs considered must prepare students for technical management positions in areas such as industrial planning, production, supply, product market research, and technical sales.

Examples of the names of typical programs which may be considered for accreditation, in addition to Industrial Technology, include the following:

- Manufacturing/Production Technology
- Communications Technology
- Computer Aided Design Technology
- Electronics Technology
- Computer Technology
- Packaging Technology
- Construction Technology
- Computer Integrated Manufacturing Technology
- Industrial Distribution Technology
- Aerospace Technology (National Association of Industrial Technology, 2003, section 1.4)

GAIT: A program under review

Appalachian State University (ASU) offers a Bachelor of Science degree in the broad field of industrial technology with various undergraduate specializations, one of which is

the Thomas W. Reese Graphic Arts and Imaging Technology (GAIT) program. Initially created as a Bachelor of Science in Industrial Technology with a concentration in Print Production Management, the program has changed its title to Bachelor of Science in Graphic Arts and Imaging Technology. The GAIT program continues to experience growth in both technical areas as well as student enrollment. From 1999 to 2003, the GAIT program experienced a 71% enrollment increase; from 83 students enrolled in GAIT in 1999 to 142 in 2003 (Office of Institutional Research, Assessment, and Planning, 2005).

Curriculum and instruction in the GAIT program fall within the parameters of the term *Graphic Communications* as defined by the Graphic Communications Council:

The processes and industries that create, develop, produce, and disseminate products utilizing or incorporating words or pictorial images to convey information, ideas, and feelings. Graphic Communications products facilitate learning, enjoyment, motivation, and commerce. Graphic Communications includes the family of market segments embracing the technologies of printing, publishing, packaging, electronics imaging, and their allied industries; they are often referred to as the graphic arts, print, or imaging industries (Graphic Communications Council, n.d., 1st ¶).

The GAIT program offers technical training and hands-on experiences in flexography, screen, digital, and offset lithography printing. In addition, GAIT recently expanded into the information technology arena with 3D animation and modeling as well as web development courses. GAIT students are exposed to all areas of print and digital processes from concept to layout, print, equipment maintenance, and finishing. GAIT

majors can choose to focus their studies on either Print Production Specialization or Graphic Imaging Technologies Specialization (Graphic Arts and Imaging Technology, 2005).

The GAIT program provides hands-on learning opportunities and education through the use of three press/prepress operation laboratories, three computer/lecture laboratories, one lecture room, a specialized library, and educational museum. Responsibility, work ethic, and technical skill growth are fostered through Mountaineer Printing, the upperclassmen, student-run printing company within the GAIT program. Mountaineer Printing “employees” promote their business to departments across ASU’s campus and follow the print job through from initial contact and design draft, to print and finishing, and finally, delivery and invoicing. The participating students face realistic industry opportunities to foster creative problem solving, strong communication skills, self-motivation, and teamwork.

The GAIT faculty is composed of five full-time professors, one Practitioner in Residence, and one adjunct instructor. Faculty and staff are experts in the areas of flexography, offset lithography, and digital printing, electronic imaging, 3D animation, web design, inks, and substrates. Faculty experts contribute to the GAIT program through lecture and laboratory instruction, but also aid the program and the entire Department of Technology through product procurement, student advising, and technical expert advice.

The Importance of Graphic Communications

Graphic Communications is an important industry all over the globe with a history rich in innovation. It is said “printing has been identified as the single most significant technological development in the history of the human species” (Adams and Dolin, 2002,

p. 2). Prior to the creation of written language and print, people relied on oral communication for transference of knowledge, stories, and history. The written word allowed history to be recorded and shared throughout generations. However, if multiple copies were needed, the only form of duplication at that time was simply hand-written copies. Manuscript copies were very time consuming, often resulting in errors in information when material was either written incorrectly or illegibly. The accuracy in duplication that occurred with invention of the printing press allowed for mass availability of accurate information and opened the door for the birth of true science and technological development (Adams and Dolin, 2002).

The twenty-first century has exploded the opportunity for information technology and many areas of daily living are being bombarded with the use of these products. Many drivers utilize wireless Global Positioning System (GPS) technology in travel, professionals in the medical industry are increasingly incorporating information technology with patient records, and the education arena has become heavily reliant on the use of multi-media tools in class instruction and student presentation (Wilhelm, 2004). The Internet itself has opened many doors for personal and professional communication and information gathering. Yet with the abundant amount of emphasis on information technology in the digital age, there is, and will continue to be, a demand for printed products. The digital age needs print as a means of advertising and marketing digital products. Print gets the word out. Ultimately, people like to have something in their hands (Robin Williams, personal communication, February 22, 2006). The GAIT program at ASU offers an opportunity for students to engage in both venues of graphic communications: print technology or information technology. By completing the

program, students gain a working knowledge of the importance of the two areas in the holistic communications process.

NAIT is Right for GAIT

Currently the GAIT program is not accredited beyond ASU's institutional SACS accreditation, nor does it employ an outcomes-based assessment process. With a desire to obtain accreditation from a relevant accrediting body, the GAIT program needs to develop a plan for assessment of learning outcomes to provide data necessary for program improvement and quality assurance; marketability; evidence of quality education to industry, lenders, and politicians; and accurate portrayal of quality through media resources.

The 2005 Beta approved standards offered through NAIT self-assessment are an appropriate source for assessment of ASU's GAIT program for several reasons. First, the definition of Industrial Technology as defined by NAIT corresponds with what the GAIT program offers. The GAIT program mirrors NAIT objectives that generally define Industrial Technology. Next, although not listed in the example program title, the title and definition of the GAIT program parallel those outlined by NAIT as appropriate for Industrial Technology programs. Finally, the 16 sections of the outcome assessment model of NAIT are specific to industrial technology programs, but at the same time allow for program originality.

In order to insure that ASU's GAIT program fulfills the program mission (see Appendix A) "...by providing the best possible facilities, by keeping current with new technologies, by improving our teaching abilities, curriculum and by maintaining the vital

and necessary connection with our industry base” (Department of Technology, 2005), a self-assessment is not only appropriate but necessary.



Chapter 3

Methodology

Research Methodology

This is an evaluative self-study using ASU's GAIT program as the case under study. The standards of measurement used for this self-study were agreed upon and voted into acceptance by the members of NAIT's Accreditation Board during the 2004 NAIT national conference. However, these beta standards have not been officially adopted as the self-study framework for NAIT. The term "beta," in this case, refers to the fact that NAIT is undergoing change in the self-assessment process. The 16 standards used in this study are not intended to be NAIT's final product for self-assessment and are not intended to be used as the self-assessment toward NAIT accreditation at this time. In harmony with the term "beta" used in software or hardware development, these standards have been generated and reviewed by NAIT representatives or officials (the Alpha testers) and have recently been released for trial assessment by a select few institutions (the Beta testers). Again, similar to the process of software and hardware development, application and critique by individuals who are detached from the product's creation provide unbiased experimentation and review of the product (Shier, n.d.). Through personal communication on September 29, 2005, permission was granted from Rick Coscarelli, Executive Director of NAIT, to apply the beta standards toward ASU's GAIT

program for the purpose of this thesis research, with the understanding that a copy of the research would be available to NAIT.

The information requested in these beta standards complies with the mission and goals set forth by NAIT and further assures quality education for industrial technology programs. The standards of measurement have been slightly edited to reflect only information necessary for this study (for example, information specific to Associate or Master degree programs have been omitted when the standard is written out in Chapters 4 and 5, and again in Appendix B). The following is a list of all 16 of NAIT's beta self-assessment standard topics:

- 5.1 Program Mission and Goals
- 5.2 Competency Identification and Validation
- 5.3 Identification of Assessment Measures
- 5.4 Program Structure and Course Sequencing
- 5.5 Student Admission and Retention Standards
- 5.6 Administrative Support and Faculty Qualifications
- 5.7 Facilities, Equipment and Technical Support
- 5.8 Program Operation
- 5.9 Student Satisfaction with Program
- 5.10 Initial Employment of Graduates
- 5.11 Job Advancement of Graduates
- 5.12 Employee Satisfaction with Job Performance
- 5.13 Student Success in Advanced Program
- 5.14 Student Success in Passing Certification Exams

5.15 Advisory Council Approval of Overall Program

5.16 Outcome Measures Used to Improve Program

(National Association of Industrial Technology, 2003)

A complete understanding of the standards was necessary for accurate evaluation.

Where NAIT definition of terms was not available, definitions specific to higher-education assessment practices were used. The *NAIT Accreditation Handbook*, attendance at NAIT's fall 2005 conference (including Accreditation Board meetings, Standards Committee public hearing, and invitation-only attendance at the Outcomes Assessment Beta Test Team Meeting), and on-line resources aided in understanding of all NAIT policies and procedures. A time and resource calendar was used to schedule and keep appointments as necessary, receive feedback, and ensure timely completion.

The following are a sample of resources utilized for data collection in the effort to adequately answer the research questions: ASU and Department of Technology web page; ASU Undergraduate Bulletin; GAIT faculty; the Department of Technology Chairperson; the ASU Office of Institutional Research, Assessment, and Planning (IRAP) and the ASU Admissions Office, Registrar, and General Studies offices. Additional information was obtained from NAIT representatives and members and other external references (as listed in Appendix C).

Research Questions

The research questions for this project are

- 1) Does ASU's GAIT program (or the Department of Technology where necessary) currently fall in compliance with all 16 NAIT standards?
- 2) If, at any level, these standards are not being met, what changes are necessary to meet these standards?

Research Sample

The sample for this study is the Thomas W. Reese Graphic Arts and Imaging Technology (GAIT) Program. The GAIT program is a component of the Department of Technology of Appalachian State University in Boone, North Carolina. The GAIT program offers a Bachelor of Science degree to individuals interested in pursuing a career in Graphic Communications. The sample includes all policies and procedures of the GAIT program for the 2005-2006 academic year.

Data Collection

Data were collected from personal communication and written or on-line resources. Personal communication consisted of gathering information by telephone, email, and face-to-face contact. Data were further collected by a review of written and on-line documents such as the GAIT mission statement, ASU admission and retention policies, US Department of Education (DOE) documents, and University of North Carolina system documents. The instrument for this research was copied from NAIT's on-line resource and replicated in a Microsoft Word document.

To insure that all components within each standard were included in the narrative and that all highlights were addressed, a separate document was created where the key points for each standard were identified and extracted from the standard. In composing the narrative regarding compliance with each standard, the key points were then addressed independently. This process insured not only that all key points would be addressed, but that narrative regarding compliance was structured in order of appearance in the standard. This format allowed for thorough analysis and flow when reading the results.

Data were validated through weekly meetings arranged between the researcher and the GAIT program coordinator. During each meeting, results from the most recent data collection were reviewed and approved by the program coordinator. Also, prior to each meeting, the researcher prepared a list of questions regarding data needs. These questions were answered by the program coordinator or direction was given on where to locate the necessary information.

Data collected regarding compliance (such as charts, tables, and narrative) were added to the document where applicable. A complete list of resources used in data collection can be found in Appendix C.

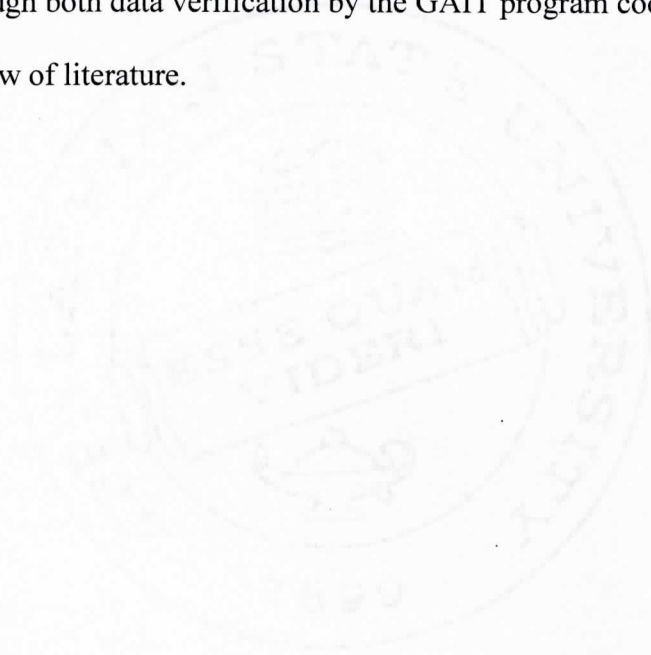
Data Analysis

Analysis by comparison was used to examine/analyze the data in this evaluative study. The subjective process of analysis was based on identifying the program data and comparing it to the expectation of the NAIT standards. Data were validated through weekly contact with the GAIT program coordinator. If the data met the standard, the standard was considered in compliance. In cases where the standard appeared not to be

met, the finding was recorded as either partial-compliance or non-compliance.

Suggestions for bringing the GAIT program into full compliance with the partial or non-compliant standards are in the Conclusions and Discussion. Informed decisions regarding compliance and recommendations offered to the program are a result of information gathered at the NAIT annual conference in St. Louis, Missouri in November, 2005, and through the extensive review of literature regarding higher education assessment.

Accurate comparisons were drawn against the GAIT program based on informed decisions through both data verification by the GAIT program coordinator and the intensive review of literature.



Chapter 4

Research Findings

The format of this chapter replicates a typical self-assessment summary provided to NAIT visiting team members during the site-visit portion of the accreditation process. Therefore, all 16 standards are listed in numeric order and in full text (excluding information specific to Associates and Masters level programs). A summary of supporting data reflective of key points and specific assessment measures follows each standard. Refer to Appendix C for a full list of resources utilized for data collection on each standard. Finally, a compliance status is noted at the end of the narrative for each standard.

5.1 Program Mission and Goals

The program title, definition, and mission shall be compatible with the NAIT definition of Industrial Technology. The program shall lead to a degree at the associate, bachelor's or master's level. NAIT approved definitions for degree programs are as follows:

b. Baccalaureate Degree: Programs that prepare individuals for positions that involve the management of complex technological systems.

General goals shall be established for each program that provide a framework for the development of specific measurable competencies.

Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized by the appropriate regional accrediting agency are considered for accreditation.

The Thomas W. Reese Graphic Arts and Imaging Technology program is a division of the Department of Technology, housed in the College of Fine and Applied Arts at Appalachian State University, Boone, North Carolina.

The GAIT program title, definition, and mission adhere to the definition of Industrial Technology, as defined by NAIT, in the following ways:

Table 1: *NAIT Definition Comparison*

NAIT Definition	GAIT Mission, Goals and Definition
<p>“...designed to prepare technical and/or technical management-oriented professionals for employment in business, industry, education, and government...”</p>	<p>[1] “The Thomas W. Reese Graphic Arts and Imaging Technology (GAIT) program at Appalachian State University prepares students for entry level supervisory and staff positions in the graphic communications industries.”</p> <p>Program definition: “The processes and industries that create, develop, produce, and disseminate products utilizing or incorporating words or pictorial images to convey information, ideas, and feelings. GC products facilitate learning, enjoyment, motivation, and commerce. GC includes the family of market segments embracing the technologies of printing, publishing, packaging, electronics imaging, and their allied industries; they are often referred to as the graphic arts, print, or imaging industries.”</p>
<p>...application of theories, concepts, and principles found in the humanities and the social and behavioral sciences, including a thorough grounding in communication skills.</p>	<p>“...[3] to instill in them [students] creative problem solving abilities, higher order thinking skills, a desire to continue to learn, a sense of self-motivation and an open receptiveness to new, challenging ideas and options. We believe that interpersonal skills should be fostered in students, including work ethic, loyalty, listening and presentation skills.</p> <p>“...[5] Our mission is in concert with the broader mission of Appalachian State University, which speaks to offering a well-rounded liberal education and an opportunity to pursue a special field of inquiry.”</p>

	<p>The current 44 hours of core general education required by ASU (to which this section pertains) do not have measurable competencies. The core curriculum is currently undergoing significant modifications and any changes made will include a list of measurable competencies.</p>
<p>...understanding of the theories and the ability to apply the principles and concepts of mathematics and science and the application of computer fundamentals.</p>	<p>Again, the current 44 hours of core general education required by ASU (of which this section pertains to) do not have measurable competencies. The core curriculum is currently undergoing significant modifications and any changes made will include a list of measurable competencies.</p>
<p>...application of concepts derived from, and current skills developed in, a variety of technical and related disciplines which may include, but are not limited to, materials and production processes, industrial management and human relations, marketing, communications, electronics, and graphics.</p>	<p>“...[4] We also charge ourselves with the responsibility to remain accountable to our students, by providing the best possible facilities, by keeping current with new technologies, by improving our teaching abilities, curriculum and by maintaining the vital and necessary connection with our industry base.</p>
<p>...completion of a field of specialization, for example, electronic data processing, computer aided design, computer integrated manufacturing, manufacturing, construction, energy, polymers, printing, safety, or transportation.”</p> <p>Source of above NAIT definition: (National Association of Industrial Technology, 2003) http://nait.org/accred/accreditationhandbook2003.html#1.2</p>	<p>“...[1] “The Thomas W. Reese Graphic Arts and Imaging Technology (GAIT) program at Appalachian State University prepares students for entry level supervisory and staff positions in the graphic communications industries.</p>

The GAIT program leads to a Baccalaureate Degree from Appalachian State University (Boone, NC). According to the GAIT program mission statement, graduates of

the GAIT program are prepared for careers as “entry level supervisory and staff positions in the graphic communications industries.”

Currently there are no defined measurable competencies (or learning outcomes) designed for the GAIT program. The current GAIT program goals are not published as individual statements; rather they are incorporated into the program’s Mission Statement (as noted in bold text of Appendix A).

ASU is legally authorized by the North Carolina State University system to provide degree programs beyond the secondary level. ASU holds current accreditation status from the Southern Association of Colleges, Schools, Commission on Colleges (SACS).

The Commission on Colleges of the Southern Association of Colleges and Schools is the recognized regional accrediting body in the eleven U.S. Southern states (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia) and in Latin America for those institutions of higher education that award associate, baccalaureate, master's or doctoral degrees. (Southern Association of Colleges and Schools , 2005a, 1st ¶)

Status:

Compliant Partial-compliance Non-compliant

5.2 Competency Identification and Validation

Measurable competencies shall be identified and validated for each program. These competencies must closely relate to the general goals established for the program and validation shall be accomplished by a combination of external experts, an industrial advisory committee and follow up studies of program graduates.

The GAIT program has not identified and adopted program-specific measurable competencies. Each course within the program does have concrete course objectives. Furthermore, the GAIT program does not employ a designated assessment plan in which program competencies can be incorporated. However, in the past the program's industrial advisory committee, external experts, and program graduates have assessed program operation; these individuals are available for future assessment.

Status:

Compliant Partial-compliance Non-compliant

5.3 Identification of Assessment Measures

Assessment measures shall exist for each of the measurable competencies identified for the program and follow-up outcome measures shall include a combination of student follow-up studies, employer satisfaction studies, advisory council program reviews and student success in advanced programs and credential examinations.

Every 3-5 years the GAIT program utilizes a survey assessment to gather information and feedback from alumni. This tool is beneficial in receiving alumni comments regarding program operation, employment advancement in the field, and student opinions on curriculum, facilities, and equipment.

The supervisors of senior internship placements complete two evaluations of student performance, one at midpoint of the student's placement and another after course completion. The employer evaluates the student's skills, knowledge, and professionalism. Around midpoint of the student's placement, the program coordinator or faculty advisor

conducts a site visit to assess student progress and gain verbal feedback from the employer.

During this visit, the GAIT representative also asks the employer about the performance of current employees who are recent graduates of ASU's GAIT program. Contact with employers of interns is a valuable resource for assessing the program's quality because they regularly offer full-time employment to student interns. These industry experts are available to offer constructive feedback concerning the quality of education of GAIT program graduates. This informal assessment allows for face-to-face contact with the alumni's employer in assessment of alumni progress and employers' satisfaction with graduates of the GAIT program.

Additionally, roughly 20 employers who attend the Spring Career Connections session are asked to evaluate the students' interview performance (including portfolio content and presentation, and communication skills). The majority of the graphic communications industry professionals present at Career Connections are employers of ASU GAIT alumni. As with the site visit, the program coordinator and faculty use this informal opportunity to question industry representatives about the status and progress of GAIT alumni they may have employed. The GAIT program does not solicit feedback from employers of alumni beyond the above-mentioned methods.

The GAIT Advisory Council meets two times each year. Its mission statement requires the council to provide feedback on program curriculum, equipment, and operations. Serving the purpose of advisor to the Program Coordinator and faculty, this council is not a governing board. However, since it is made up of highly qualified and

respected industry professionals, the board's recommendations are strongly considered during program revision.

Two examples of assessing the current students' knowledge and performance are as follows:

- a) observation prior to students' use of equipment, faculty observes each individual's proper use to insure safety and correct technique. Furthermore, as students work in lab areas, the professor and often a lab technician are available for assistance as needed. A faculty presence allows the opportunity to observe student progress, provide assistance, and verbal feedback, as necessary.
- b) Students complete a project from concept to print. Faculty evaluate this multi-step process, in some courses, by incorporating checkpoints. For example, once a student has generated an on-screen graphic for print, it is evaluated by the professor before the student moves to the next phase of making a press plate of that design. The student may not progress through the print process without the professor's approval. This process provides an opportunity for the professor to observe student's progress and insure his/her understanding of the print process at hand.

There are neither Graphic Communications industry credential examinations to which this program holds its students accountable, nor any deemed as being useful measurement tools for student performance.

The groups (current students, advisory council, alumni, and employers) and some instruments are in place for follow-up measures. However, this program has not defined program-wide measurable competencies. Therefore, the above areas of assessment do not incorporate a common set of measurement criteria.

Status:

Compliant Partial-compliance Non-compliant

5.4 Program Structure and Course Sequencing

Each program shall meet minimum foundation requirements. Programs may exceed maximum foundation requirements specified in each area, but appropriate justification must be provided. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self Study Report. Minimum and maximum foundation requirements for degree programs are listed below:

b. Bachelor s Degree: Major programs shall be a minimum of 120 semester hours and shall meet the following minimum/maximum foundation requirements:

<i>General Education (must include oral and written communications)</i>	<i>18-36</i>
<i>Mathematics</i>	<i>6-18</i>
<i>Physical Sciences</i>	<i>6-18</i>
<i>Management.....</i>	<i>12-24</i>
<i>Technical</i>	<i>24-36</i>
<i>Electives</i>	<i>6-18</i>

(Students must successfully complete a minimum of 15 semester hours of junior or senior level courses at the institution seeking accreditation.)

Appropriate laboratory activities shall be included in the program and a reasonable balance shall be maintained between the practical application of how and the conceptual application of why.

There shall be evidence of appropriate sequencing of courses in each major program to ensure that applications of mathematics and science are covered in technical and management courses. Further, sequencing should ensure that advanced level courses build upon concepts covered in beginning level courses.

GAIT students have to be competitive in an ever-changing technological industry.

The GAIT program is charged with producing the best possible product (the students) so that they can be competitive and successful in the job market. The curriculum structure for the 2005-2006 academic year is in partial-compliance with the NAIT requirements in the areas of mathematics (requiring 6-18 credit hours) and physical science. ASU's

General Education core curriculum requires that students complete 8 semester hours of natural science coursework. Table 2 below illustrates GAIT program credit hours in comparison to NAIT required credit hours.

Table 2: *Minimum Foundation Requirements*

<i>Discipline</i>	<i>NAIT</i>	<i>GAIT current credit hours</i>	<i>GAIT proposed credit hours</i>
General Education (must include oral and written communications)	18-36	6-English 4-mathematics 8-natural science 2-PE 6-social science 6-social science 12-humanities 44 total General Education	6-English 4-mathematics 8-natural science 2-PE 6-social science 6-social science 12-humanities 44 total General Education
Mathematics	6-18	Mathematics requirements are included in General Education requirements (4 hrs included in the Gen. Ed. total of 44)	Mathematics requirements are included in General Education requirements (4 hrs included in the Gen. Ed. total of 44)
Physical Sciences	6-18	Natural Sciences requirements are included in General Education requirements (8 hrs included in the Gen. Ed. total of 44)	Natural Sciences requirements are included in General Education requirements (12 hrs included in the Gen. Ed. total of 44)
Management	12-24	30 (with a suggested Business minor) + 3 from Gen. Ed.	21
Technical	24-36	42	9 (general technology) + 25 (general GAIT) + 15 (GAIT specialization)
Electives	6-18	2-8	11

The student may or may not choose for those science credits to be physical science.

During the 2005-2006 academic term, GAIT students were not required to select physical science. In addition, GAIT requires 42 technical credit hours, in possible excess of 6 to

18 credit hours of NAIT requirements. The program is equipped in such a manner to be able to provide additional technical coursework. All other curriculum requirements fall within the limits of NAIT's foundation requirements. The GAIT program requires 122-124 total credit hours for program completion. Additionally, Appendix D lists detailed courses offered in each of the disciplines.

It should be noted, however, that during the 2005-2006 academic year the GAIT program curriculum was restructured. Recommended curriculum changes have been approved by the Academic Policies and Procedures Committee (AP&P), and the new GAIT program curriculum and requirements will be in place for the 2006-2007 academic year. Because of a recent assessment by GAIT alumni and industry employers, the program coordinator was informed of a strong desire by both groups to have mandatory business courses for GAIT students. Therefore, the revised curriculum includes business courses in the requirements and no longer requires students to seek a minor outside of the department. See Table 2 for comparison of current and proposed curriculum against NAIT requirements for standard 5.4.

ASU students choose from a specific list of courses that fulfill the General Education requirements established by the General Education Task Force. Students must select courses within designated competency areas that meet a required number of credit hours as noted on the general education checksheet in the undergraduate catalogue. In selecting courses within the general education core, students must meet university requirements for curriculum "Special Designators." ASU's General Education office has defined core curriculum courses, which provide the students with essential skills and knowledge, or Special Designators referred to as *communication in speaking and writing, numerical*

data, multi-cultural awareness, and cross-disciplinary topics. (See Appendix E for a list of general education core curriculum, to include Special Designators and credit hours.)

As with the revised GAIT program, it should be noted that a General Education Task Force has recently been developed to assess the current General Education core curriculum requirements, and is charged with generating a new core curriculum as necessary.

As required by SACS, it is the academic policy of ASU that students' last 30 credit hours be completed at ASU. Once the proposed GAIT curriculum changes are in place for the 2006-07 academic year, a minimum of 18 credit hours of the major program requirements must be completed at Appalachian.

Students are expected to know the *how* and *why* processes of graphic communications through laboratory activities, lectures, and oral or written feedback from peers and professors. Lectures provide students of the GAIT program with information concerning methodology, terminology, and history of Graphic Communications. Faculty members explain processes and detail troubleshooting through class demonstrations in lecture as well as laboratory settings. Students are given opportunities to apply their knowledge through hands-on laboratory activities.

Mathematic and scientific principles are incorporated into many technical and business courses in the GAIT program curriculum. For example, in consideration of the use of inks and substrates, manipulation of images and light, need for measurement, the process of film and plate development, and estimating company profit and loss, courses in the GAIT program build upon the students' knowledge of the following principles of

math and science: economics, chemistry, physics, biology, geometry, simple mathematics, algebra, and basic statistics.

GAIT courses are sequenced to insure that classes are built upon one another in terms of introductory and advanced coursework. Basic courses (those that are less than the 4000 level in course listing) introduce students to concepts, methodology, terminology, and software and equipment use. The advanced level courses build upon these principles, requiring a higher quality of student product, improved time management, and increased independence with project completion. Tasks in the advanced courses are of much greater scale and require technical troubleshooting as well as oral and written communication.

Status:

Compliant Partial-compliance Non-compliant

5.5 Student Admission and Retention Standards

There shall be evidence showing that the quality of Industrial Technology students is comparable to the quality of students enrolled in other majors at the institution. The standards for admission and retention of Industrial Technology students shall compare favorably with institutional standards. Sources of admission information may include test scores and grade rankings. Sources of retention information may include general grade point averages of Industrial Technology students compared to majors in other institutional programs.

This NAIT standard charges programs to provide specific evidence regarding its students compared to all enrolled students. The students accepted into the GAIT program are of comparable quality as those enrolled throughout ASU. GAIT students are held to the university standards for admission and retention; no additional criteria for enrollment to the GAIT program apply. The following is a summary of university-wide admission

criteria for high school graduates and transfer students, and is therefore, applicable to all GAIT majors.

University acceptance criteria for high school graduates of 2004 and earlier require a high school Grade Point Average GPA of 3.73, and either an average Scholastic Assessment Test (SAT) score of 1130, or an average American College Test (ACT) score of 25 composite. Additionally, they must have a high school diploma (or equivalent) and have completed designated hours of high school coursework in social studies, math, English, science, and a secondary language.

In general, transfer students are admitted based on successful completion of college transferable credits. Technical, developmental, and orientation courses are usually not transferable. A cumulative GPA of 2.0 (as calculated by Appalachian) is required to be admitted. All grades earned in transferable courses, including repeated courses, are used in calculating the GPA. Transfer applicants with less than 30 semester hours must meet the admission requirements for freshmen.

All students enter Appalachian State University by the General Studies Office. Although students may have indicated a major preference on their applications or during Orientation, they are not officially accepted into that major until they have earned 30 semester hours, maintained a 2.0 (C) GPA, and completed English 1000 and 1100. Student information is available to program faculty advisors through the Student Information System (SIS) database. As a means for collecting enrollment data at the time of major declaration, any ASU faculty member can track, at minimum, the GPA of newly declared GAIT majors. Some programs throughout the university review students'

academic profiles prior to enrollment into a program. The GAIT program has not in the past and does not now gather such information.

The GAIT student's academic progress is tracked through the faculty advisor. Through initial meetings and any necessary follow-up academic consultation, faculty members have an opportunity to monitor student progress. However, GAIT has no formal system of tracking, compiling, or reporting student retention within the program. Should the GAIT program need to acquire retention information at this time, it must rely on information gathered and maintained through ASU's Office of Institutional Research and Planning. University retention data are available for comparison to all 16 schools within the University of North Carolina system. Upon request, retention information of students within the Department of Technology (not particular programs) can be extracted from the entire 16 university system or ASU population.

Status:

Compliant Partial-compliance Non-compliant

5.6 Administrative Support and Faculty Qualifications

There must be evidence of appropriate administrative support from the institution for the Industrial Technology program including appropriately qualified administrators, an adequate number of full time faculty members and budgets sufficient to support program goals. Full time faculty assigned to teach courses in the Industrial Technology program must be appropriately qualified. Faculty program qualifications shall include emphasis upon the extent, currency and pertinence of: (a) academic preparation; (b) industrial professional experience (such as technical supervision and management); (c) applied industrial experience (such as applied applications); (d) membership and participation in appropriate Industrial Technology professional organizations; and (e) scholarly activities. The following minimum qualifications for full time faculty are required (except in unusual circumstances which must be individually justified):

b. Bachelor's Degree: A bachelor's and master's degree in a discipline closely related to the faculty member's instructional assignment. A minimum of fifty percent of the regular full-time faculty members assigned to teach in the major(s) program shall have an earned doctorate (exceptions may be granted for highly specialized programs or when a program is in place to achieve this standard within a reasonable length of time).

Policies and procedures for faculty selection, appointment, reappointment and tenure shall be clearly specified and shall be conducive to the maintenance of high quality instruction.

Faculty teaching, advising and service loads shall be reasonable and comparable to the faculty in other professional program areas.

The Department of Technology is housed in the College of Fine and Applied Arts. The Dean of the College holds a degree in an Industrial Technology related field. The GAIT program is administered and implemented by the Program Coordinator. All faculty hold degrees in Industrial Technology or appropriate related fields. The GAIT program coordinator is responsible for the program's academic administrative responsibilities and holds a doctorate of education in Technology Education. Additional non-academic administrative duties, such as development and management of the Thomas W. Reese Center for Graphic Arts and Imaging Technology, are held by the Distinguished Professor who holds a Bachelor of Arts degree in Sociology with a minor in Psychology,

and has 33 years experience as a printing company manager. The program coordinator reports to the department chairperson, who holds a Ph.D. in Adult and Occupational Education.

The GAIT program employs five full-time faculty members (to include the program coordinator), one adjunct faculty, and one full-time Practitioner-in-Residence (staff, non-faculty). All full-time GAIT faculty and staff (a) meet professional qualifications set forth in this standard, (b) are responsible for a portion GAIT student advising, (c) are active members of professional and service organizations, (d) carry manageable course loads and (e) are involved in scholarly activities through presentations and generation of published works. Publications and other scholarly activities are reviewed under the standard of the Department's promotion and tenure guidelines (see Appendix F for a summary of faculty and administration credentials).

Of the full-time faculty members, three (60%) hold earned doctorates and one (20%) is an ABD candidate. All other faculty and instructional staff hold degrees consistent with university and SACS requirements. Faculty members have varying levels and years of industry experience, from internship placements and part-time employment, to many years as press operators or press manager. All faculty are members of at least one national professional organization relevant to the field. Five of the six full-time faculty/staff combined are NAIT members, one of whom currently sits on the accreditation board. The one exception is the most recent employee who comes to GAIT from an industry setting and is only recently familiar with NAIT.

The following exception(s) to the NAIT standard apply to faculty credentials:

1) The Distinguished Professor does not meet the NAIT level of education standard.

In compliance with the position description under which he was hired, the Distinguished Professor brings over 30 years of applied industrial experience and management to the GAIT program, in lieu of graduate education, and therefore this discrepancy does not result in non-compliance.

2) One of the full-time professors of the GAIT program holds additional responsibility as program coordinator of another technology concentration currently being phased out of ASU's Industrial Technology curriculum. Because of his dual responsibilities, this professor has an additional student advising load and some administrative duties connected to the other departmental concentration. This program will be completely eliminated after the 2006-2007 academic year, relieving this faculty member of the additional advising and teaching responsibilities.

In addition to the documentation to support faculty credentials in Appendix F, faculty personnel files are held by the Department of Technology Chairperson. The files contain a professional vita, position description, and other employment documentation. Brief vitas are available from the Department of Technology web site.

The current GAIT budget is adequate to support program operational and equipment needs. With the understanding that state distributed operational budgets do not increase at the same rate as technology equipment needs, the GAIT program receives additional support from external sources. The Thomas W. Reese endowments provide the program with capital equipment, student field trips, faculty and student conference attendance, and daily operations of the program (inks, paper goods, press maintenance needs, and prepress supplies). An endowment from Ron and Catherine Harper provided for the

construction, operation, and maintenance of the Flexography museum and support to the operational needs of the Flexographic printing laboratory. Additional endowment funds exist for the sole purpose of professional development such as contracting with industry professionals for equipment training and payment of licensure fees and professional organization memberships. The endowment funds received for the GAIT program are roughly 700% more than state contributions.

Internal funds: The GAIT program receives state mandated education funds for instructional use. In comparison to other Department of Technology programs, the GAIT program receives more than the average program disbursement.

External funds: Not including student fees for consumables, the GAIT program receives a significant amount of operational and professional development funds from private or corporate contributors; far in excess of any other technology program on the ASU campus.

The GAIT program adheres to the university policies and procedures regarding faculty selection, appointment, reappointment, promotion, and tenure as found in the ASU Faculty Handbook. Additionally, the Department of Technology employs department-specific guidelines based on the ASU Faculty Handbook guidelines, which are available for public knowledge on the Department of Technology web site.

In the GAIT program (as in other areas) faculty members hold "out of load" teaching activities such as supervising independent studies, advising graduate students, or supervising technical assistants, none of which is incorporated into the calculations of the teaching load. The typical campus-wide teaching load is 4/4 or 12 credit hours per semester for each professor. Most faculty on campus teach three courses every regular

semester. This allows reassigned time to do scholarly work. The average teaching load for GAIT faculty for spring semester 2006 is 11 credit hours. This includes the one faculty member who teaches one three-hour course and another faculty member who has a 13-hour teaching load. In the fall semester of 2005, full-time equivalency (FTE) evaluations were conducted on all programs and faculty within the Department of Technology. Through this assessment it was determined that the target FTE student hours for each individual faculty member in the Department should be 198. The actual department-wide average FTE per faculty member is 206. The GAIT program faculty member average is 301.

Each full-time GAIT faculty member is responsible for advising 17-26 GAIT majors (alphabetically assigned by students' last name) and is charged with providing each student with advice on class scheduling, progressing towards his/her degree and career goals, and any other academic related counseling the student desires.

Status:

Compliant Partial-compliance Non-compliant

5.7 Facilities, Equipment and Technical Support

Facilities and Equipment, including the technical personnel support necessary for maintenance, shall be adequate to support program goals. Evidence shall be presented showing the availability of computer equipment and software programs to cover functions and applications in each program area.

Facility and equipment needs shall be included in the long-range goals for the program.

5.7.1 Facilities

The GAIT program operates within approximately 10,496 square feet of space within the Department of Technology. Each faculty member has a private office space used for curriculum planning, research, confidential student advising, and for storage of resource material. One classroom is strictly designated for lecture and demonstration (through use of multimedia projection equipment). Three computer laboratories are available for lecture and hands-on practical laboratory use; one is equipped with multimedia projection equipment. Computer labs and the lecture hall allow students to have individual seating and computer use. Classes are not filled beyond the rooms' capacities, and students are neither required nor expected to share computers.

In addition to the computer labs, the GAIT program uses six other key areas of laboratory operation: prepress areas (dark rooms for film and plate development, film trim and offset plate-making area, and a wash-out room for screen printing), offset printing area, digital printing room, flexography printing lab, animation lab, and screen printing area. Furthermore, the GAIT library, housed within the GAIT program, contains resource materials relating to the Graphic Communications industry and is accessible to all GAIT faculty and students of GAIT (program majors or minors). Finally, the GAIT program is home to the only flexographic printing museum in an educational setting within the United States. The Harper Museum of Flexography is a teaching tool and resource for several GAIT classes. The museum is an outstanding instrument when educating students on definitions regarding the flexographic printing process, talking about press components, and reviewing historical and current events. With different components of the flexographic press on display for students to examine (both visual and

tactile), the museum provides everything faculty need to introduce students to flexography. See Appendix G for a full list of program facilities.

5.7.2 Equipment

The computer software is at industry standard, but some lab printer compatibility is not sufficient to support the newest software programs. Although the digital press is not the most current, the students are adequately exposed to the print process with the equipment that is available. GAIT students learn and have an opportunity to master the entire process. They begin the print process in the same manner as current industry professionals and ultimately run the presses the same way. The difference lies in the number of steps from concept to print. The program's intention (as stated in the Long-range Plan) is to purchase updated equipment for the printing labs. Until that time, GAIT program administrators have used the opportunity to educate students on the entire print process. When GAIT students enter an industrial setting, they will understand the concepts of all steps. In all, the current equipment does meet the needs of the coursework and does produce a product compatible with industrial practices. (See Appendix H for an equipment inventory).

5.7.3 Technical Support

Computer related technical problems experienced by students or faculty are addressed first with GAIT faculty or the Practitioner in Residence. In the event that neither one are able to determine a solution to the problem, a request for assistance is made to the Electronics Technician of ASU's Department of Technology via the university's Tech Support network known as "Right Now." If the Department's Electronics Technician is

unable to generate a solution, the Electronics Technician makes any additional technical support request to the Computing Consultant of the Academic Computing Services.

5.7.4 Availability of Computer Equipment/software

Student Labs

GAIT student computer labs are primarily Macintosh systems and run on Mac OS10.4 (a very recent version of the Mac operating system). ASU's Computing Consultant from Academic Computing services designed an operating system setting for the lab computers and installed the system (through a network) onto each of the lab computers' hard drives. The system has a "self-check" so that each time a computer is shut down the software scans the computer. If the software identifies any significant oddities from the original format (as designed by the Computing Consultant), the server will reconfigure that computer's hard drive to "reset" it to the original settings. Lab users do not have access to make permanent changes in system structure or computer preferences. For example, if the screen resolution is modified during use, it will return to default resolution settings when powered on.

Students can save documents to the "my documents" folder on the computers' hard drives, to a GAIT program specific server folder, to a personal CD, or a removable USB flash drive.

Licensed or limited use software is programmed onto each machine, independently of one another. For example, when an Adobe program is opened the individual computer accesses a key code on the server through the network, allowing the user to open the software. This process alleviates malfunctions and governs the number of campus-wide users. All basic software upgrades are initiated by the university (generally by the

Computing Consultant) for commonly used programs such as Adobe Creative Suite 2, Microsoft Office, AutoCAD, and MacroMedia. Other software, such as Alias' Maya, a 3D animation and modeling, can be purchased, with the cost dependant on the anticipated number of licenses needed for specialized program.

In addition to course schedules, which incorporate lab time, computer and press laboratories are available to GAIT students during the school day while class is not in session. Furthermore, a GAIT undergraduate lab technician is responsible for maintaining open labs Monday and Wednesday evening until 10pm. During this lab time, students have access to all program computers and prepress equipment. For purposes of safety, students are not permitted to run the presses, cutting machine, and other large pieces of equipment. This after-hours operation allows for increased prepress work. Additionally, with the software available on the university's server, students can access all programs utilized by GAIT majors from computer labs all over the campus (with the exception of Maya). Network accessibility is an advantage to students where the university library, student union, or many other campus computer labs have hours or locations that are more convenient.

Faculty

ASU faculty are provided with a "faculty build," a computer configuration designed specifically for faculty needs. It is not a requirement that faculty accept and use the system. With this build, the faculty must be connected to the university network to access program key codes if they wish to run the network software. For the GAIT faculty this option was not convenient when doing work from their homes. Instead of having to

access the network, money from one of the GAIT program foundations was used to purchase software for each faculty's laptop.

5.7.5 Long-range program goals

In reference to results from 5.7.2 regarding equipment, the GAIT program has incorporated into its Strategic Plan a proposed equipment inventory increase. Additionally, one major task of the Distinguished Professor is to assess equipment needs and procure new or slightly used laboratory equipment for the GAIT program.

Status:

Compliant Partial-compliance Non-compliant

5.8 Program Operation

Evidence shall be presented showing the adequacy of instruction including: (a) motivation and counseling of students; (b) scheduling of instruction; (c) quality of instruction; (d) observance of safety standards; (e) availability of resource materials; (f) teaching and measurement of competencies (specific measurable competencies shall be identified for each course along with the assessment measures used to determine student mastery of the competencies); (g) supervision of instruction; and (h) placement services available to graduates.

A course syllabi shall be available for each course that appropriately describes course objectives, content, measurable competencies, references utilized, student activities and competency measurement criteria.

A number of institutional measures are in place to assure the adequacy of instruction and address the needs of students.

5.8 (a) Motivation and counseling of students

Each full-time GAIT faculty member is responsible for advising approximately 17-26 GAIT majors (as assigned by students' last name in an alphabetical breakdown) and is charged with providing each student with advice on class scheduling, progressing

towards their degree and career goals, and any other academic related counseling the student desires.

5.8 (b) scheduling of instruction

The program coordinator is responsible for course scheduling prior to each semester. ASU requires courses to be submitted to the Technology office so that rooms and schedules can be coordinated throughout the Department, and then requested courses are forwarded to the Registrar for scheduling. These schedules are typically prepared 4-6 months in advance of each term. Every schedule undergoes six levels of scrutiny before being published. The following details are considered when scheduling courses: faculty load, student need (will too many or too few need this course), industry recommendations, available supplies and equipment, and available space (lab and lecture).

5.8 (c) quality of instruction

All full-time GAIT faculty attend monthly meetings (or accountability meetings). During these meetings faculty discuss the status of attaining course goals; offer any equipment or supply needs; make requests; and provide feedback on instructional methods, course assignments, student progress, etc.; and share observations of student progress from lower level courses to advanced courses (are they ready to progress, do they come with all necessary skills, etc.). These meetings foster open communication among faculty, allow an opportunity to share achievements or concerns with peers, assure that equipment and supply needs are being met, and serve as an on-going informal program assessment.

5.8 (d) observance of safety standards

Students are charged with adhering to safety standards set forth by GAIT faculty, ASU's Physical Plant Safety Office, and the Occupational Safety and Health Administration (OSHA). Faculty provide students with safety lessons through lecture and proper equipment demonstration. Students are expected to employ proper safety measures when using equipment and supplies. Furthermore, students are expected to demonstrate these safety measures for the professor prior to independent use.

Material Safety Data Sheets (MSDS) are kept for documentation of all chemicals used in the GAIT program. GAIT chemicals warranting this documentation are press cleaning agents and some inks. The MSDS for each chemical are located in a three-ring binder in the office of, and are maintained by, the Practitioner in Residence. MSDS list valuable information about the named substance to include handling instructions, safety precautions, chemical properties, and emergency procedures.

5.8 (e) availability of resource materials

The GAIT library houses resources related to all aspects of print, animation, and web production. GAIT students and faculty may use the library resources during established library hours, or with permission from a GAIT faculty member.

The program's Practitioner in Residence is responsible for ensuring that GAIT faculty have supplies necessary for lab and lecture needs. As often as possible, faculty members are to make their requests known within a reasonable timeframe, allowing for delivery and or delays. It is the responsibility of the Practitioner in Residence to contact the supplier, order, and submit requests for funds of products ordered.

5.8 (f) teaching and measurement of competencies (specific measurable competencies shall be identified for each course along with the assessment measures used to determine student mastery of the competencies)

Each course syllabus contains course objectives. These objectives outline information to be presented throughout the course in terms of curriculum concepts, methodology, terms, and equipment use. Syllabi contain measurement tools for assessing concepts covered in course instruction and laboratory activities. Measurement tools for course objectives include any combination of the following: assessment of student portfolios, peer evaluations, class projects, laboratory observation, written tests, group assignments, and student presentations.

5.8 (g) supervision of instruction

Faculty conduct peer reviews once each year. This process calls for a Technology Department faculty team to observe a peer instruction during lecture and lab settings. The peer faculty team generates a written report before discussing the results with the individual under evaluation. Then, on an annual basis, the department chairperson meets with each faculty member independently to conduct an annual review. During this time, the Chairperson provides feedback to the individual based on critical review of written reports from peer observations, student course evaluations, and the individual's annual self-evaluation.

Because of this annual meeting, the chairperson will prescribe actions relevant to constructive feedback. These actions are deadline specific and require a status report to the Chairperson upon completion.

Each faculty member is charged with generating a Professional Development Plan, where they write up yearly plans. Professional Development Plans are reviewed by the coordinator each semester at a mid-term check, and then reviewed by the chairperson annually.

5.8 (h) placement services available to graduates

Career Connections is an annual career fair hosted by the GAIT program for GAIT students. Students generate resumes, cover letters, and compile portfolios prior to the Career Connections event. Industry representatives are invited to the ASU campus to meet faculty and students and conduct approximately eight, 20 minute interviews. Students are assigned interview times with as many as 10 industry professionals (in some cases the industry representative chooses the students). On the day of Career Connections, students and industry representatives are given schedules of 30-minute intervals: 20-minute interview time, 5-minute discussion or reflection for the industry representative(s), 5 minute transition time to prepare for the next candidate or take a break. Career Connections is the main source of career placement for ASU GAIT graduates. The event is co-sponsored by the ASU Career Development Center.

Services of the ASU Career Development Center (CDC) are available to current students and alumni of Appalachian State University. The CDC consists of career counselors who specialize in areas of the university. Any of the counselors are available to assist GAIT majors, however, it is encouraged that they work with the counselor assigned to technology majors. The CDC encourages students to utilize these career planning services: Career Fair opportunities, Career Gear account information, career information by major, career information network, cover letters review and assistance,

awareness of graduate schools opportunities, international careers, internships, interviewing skills and mock interviewing, job searching, networking, and resume writing.

Current course syllabi are given to all students and are reviewed in class. Syllabi contain very important and detailed course information such as professor contact information, course objectives, measures of objectives, references utilized (where appropriate) and in most cases a detailed course schedule is provided. Again, the GAIT program lacks program-specific measurable competencies; therefore, they do not appear on current course syllabi. Per SACS accreditation requirements, copies of all current course syllabi are kept on file in the Department office, and copies of syllabi from previous semesters are maintained for at least five years.

Status:

Compliant Partial-compliance Non-compliant

5.9 Student Satisfaction with Program

Student evaluations of the program shall be made at the time of graduation. These evaluations shall include student attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available for student evaluations of the program.

The GAIT program does not have an assessment tool in place that adequately meets the requirements of this standard. However, there are two other forms of assessment utilized campus wide that allow for provisional program and course assessment.

First, students complete course evaluations at the end of each term. The survey provides measurement of student attitudes regarding the instructor's knowledge, teaching

style, and approachability; the course content; facilities; and course relevancy. The results from these course evaluations are given to the department chairperson for review. In the recent past, the Chairperson reviewed these results with the faculty member alone. However, a new policy is in place for the 2005-2006 academic year in which the Chairperson meets with the faculty member and provides direct verbal feedback with the program coordinator present.

Second, the ASU Office of Institutional Research, Assessment, and Planning distributes a senior assessment, as required by the state of North Carolina. The assessment is administered two weeks prior to graduation. The campus-wide results are compiled into department-specific spreadsheets. This allows the Department of Technology to look for comparisons against other departments. However, the results are not recorded for the interpretation of program specific results.

Status:

Compliant Partial-compliance Non-compliant

5.10 Initial Employment of Graduates

The initial placement, job titles, job descriptions and salaries of graduates shall be tracked on an annual basis. The initial jobs held by students shall be consistent with program goals. Summary data shall be available for the initial employment of graduates.

The GAIT program has distributed an alumni survey twice over the past 14 years. The initial survey results are from 1991. A follow up survey was administered in May 2005. The two measures of data collection were similar with the exception of some expanded choices, changes to answer formatting (from multiple choice to fill in the

blank), question ordering, and three questions were added. In both cases, the data collected which are relevant to this standard's requirements include initial employment salary, job title, and relation to GAIT program goals. Data are also available which indicate the percentage of alumni who continued employment in the graphic communications industry as well as those who chose to leave the industry. The results from both assessment can be obtained through the GAIT Program Coordinator. In addition, a copy of the latter assessment (Parsons, 2005) is available in the Carol G. Belk Library and Information Commons on ASU's campus. As a move toward alumni assessment every 3-5 years, a department-wide alumni assessment will be administered in Spring 2006 and that data can be separated by program within the Department.

Status:

Compliant Partial-compliance Non-compliant

5.11 Job Advancement of Graduates

The advancement of graduates within organizations shall be tracked on a regular basis (two to five years) to ensure promotion to positions of increasing responsibility. Summary data shall be available for the job advancement of graduates.

Advancement in terms of salary has been most recently tracked in 1991 and again in 2005 through an alumni survey. The results of the 2005 survey indicate that, of those alumni completing the survey, they experienced an increase in salary from 75% receiving between \$15,000 – 30,000 /year to 59% receiving 25,000-45,000/year. Additionally, present job titles were assessed, but these cannot be compared to the subject's initial job title because that was not included in the first survey. Finally, in relation to the alumni's

promotion and advancement, question 11 of the 2005 survey does ask if the subjects' current job meets the "expectations in terms of responsibility and salary." None of the above-mentioned measures are specific to advancement within organizations, as the standard states. There are no other measures in place that could account for alumni career advancement.

Status:

Compliant Partial-compliance Non-compliant

5.12 Employer Satisfaction with Job Performance

Employer satisfaction of the job performance of graduates shall be tracked on a regular basis (two to five years) including employee attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available showing employer satisfaction with the job performance of graduates.

Employers of ASU alumni are not assessed. Please review results of standard 5.3 above for an explanation of how alumni employers are informally questioned regarding job performance, attitudes, and competencies of GAIT graduates.

Status:

Compliant Partial-compliance Non-compliant

5.13 Student Success in Advanced Program

If a goal of the program is to prepare students for advanced studies, then the success of students in the advanced study programs shall be tracked and confirmed. Summary data shall be available showing student success in advanced programs.

In accordance with current practices of ASU's GAIT program and in review of the program's long-range goals, this standard is, and will remain, irrelevant to ASU's GAIT program. Although ASU's Department of Technology offers a Masters of Arts in Industrial Technology with a GAIT concentration, graduate school is optional for GAIT graduates. The focus of the undergraduate GAIT program is to prepare students for industry work. Continuing education is addressed on page 21 of the Long Range Plan for GAIT.

Status:

Compliant Partial-compliance Non-compliant

5.14 Student Success in Passing Certification Exams

If a goal of the program is to prepare students to pass certification examinations, then the success of students in passing these examinations shall be tracked and confirmed. Summary data shall be available showing student success in passing certification exams.

There are no current certification exams appropriate for students in the GAIT program; therefore, it is not a goal of the program to prepare students to pass a particular certification exam. Certification Examination is also addressed in the Long Range Plan for the GAIT program.

Status:

Compliant Partial-compliance Non-compliant

5.15 Advisory Council Approval of Overall Program

An industrial advisory council shall exist for each program with responsibility for competency validation and the evaluation of overall program success. Guidelines for the advisory council shall exist that include: (1) criteria for member selection; (2) procedures for selecting members; (3) length of member appointment; (4) council responsibilities; (5) frequency of meetings (at least one per year); and (6) methods of conducting business. Minutes of advisory council meetings shall be made available to the visiting team.

In the past, advisory council members have been given brief guidelines outlining Advisory Council membership responsibilities (mainly consisting of a copy of the Advisory Council mission statement) along with information about the GAIT program. Through the researcher's interview with the most recent Advisory Council Chairperson, it was discovered that information specific to the following six requirements for standard 5.15 is not documented or maintained in manuscript for either program or board operations.

5.15.1. Criteria for member selection

The ASU GAIT Advisory Board is made of industry professionals in printing or a Graphics Arts related field (professionals such as vendors or paper merchant would represent a related field). All members are involved in the Graphic Arts industry in some way. In addition to voting members, the board has educators as ex-officio members.

5.15.2. Procedures for selecting members

Typically, a new member is selected through discussion between the current chairperson, past chairperson, and Mr. Thomas W. Reese. Nominations from other voting board members are considered (but nominations will not be considered from those outside of the board).

5.15.3. Length of member appointment

There are no guidelines regarding a Council Member's length of term. The Board is of the opinion that as long as a person is interested and active in serving, they are welcome to stay on the board. The lack of time restraints holds true to the Chairperson as well.

5.15.4. Council responsibilities

- The Council Member's responsibilities are outlined in the Advisory Council Mission Statement (See Appendix I).
- The primary responsibility of the Advisory Council is to advise the program coordinator on where the industry need is for graduates. The hope is that the coordinator will use the Council's recommendations to make necessary changes to meet the needs of industry's current practices.
- Members are not provided any financial stipend for their involvement on the Advisory Council. Membership is strictly voluntary and is in addition to other professional responsibilities. Each member is expected to provide his or her own transportation and lodging for Council meetings (outside of any meals or refreshments, provided during the meeting).
- Council members are not asked to give money (or material donations).
Individuals do not have to be a financial contributor to become a member. However, although they are not asked or expected to do so, council members are welcome to contribute to the GAIT program.
- Members are expected to attend each meeting as long as they are a voting member.

- It is the Chairperson's responsibility to update new (or current) members on membership criteria (how many meetings annually, roles of the members, etc.).

5.15.5. Frequency of meetings (at least one per year)

The ASU GAIT Advisory Council holds two meetings annually; one in the spring and one in the fall. It is difficult to have meetings in the winter months as weather in Boone, NC can be unsafe and often brings undesirable snow, ice, and wind for those traveling from out of state.

5.15.6. Methods of conducting business

The GAIT Advisory Council conducts business under the guidelines of Robert's Rules of Order. The Department of Technology's Office Assistant IV currently records Advisory Council minutes. Previously, minutes were recorded and typed by an Advisory Council officer. After typed, the minutes are submitted to the council's Chairperson for review and signature. The minutes are then mailed to each Advisory Council member. The council's Secretary or Chairperson has been responsible for recording and archiving previous minutes. From fall 2005 on, minutes will continue to be recorded by the Department of Technology's Office Assistant IV who will also maintain all copies.

Status:

Compliant Partial-compliance Non-compliant

5.16 Outcome Measures Used to Improve Program

There shall be evidence presented showing how outcome measures (Student Satisfaction with Program, Initial Employment of Graduates, Job Advancement of Graduates, Employer Satisfaction with Job Performance, Student Success in Advanced Programs, Student Success in Passing Certification Exams and Advisory Council Approval of Overall Program) have been used to improve the overall program.

The GAIT program does not currently maintain written accounts of program improvements and modifications. Furthermore, without development of outcome measures there is obviously no connection between modifications based on measurement of these objectives. However, as noted in documentation of the previous 15 standards, the GAIT program does assess program needs and accomplishments regularly. Generated from these measures, the following is a list of ways in which the GAIT program incorporates formal and informal measures into program improvements.

a) Significant curriculum changes occurred midyear (2005-2006) because of feedback provided from GAIT alumni in a spring 2005 survey. Research results identified a strong need for graduating seniors to gain substantial skills in business and management. Through faculty meetings, proposed curriculum changes were generated. Assuming approval at each level, proposed curriculum changes progress through the university system as follows: they are presented to the Department Curriculum Committee for review, then to the Department faculty, then the Department Chairperson, Chairpersons of the College of Fine and Applied Arts, and the Dean of the College, to be ultimately approved by the university AP&P committee as well as the university Provost.

b) Twice each year, Advisory Council members provide feedback to GAIT faculty, the Program Coordinator, the Department Chairperson, and the College Dean. The

Council critically evaluates current program operation and makes recommendations for program changes as appropriate to current industry standards and needs. Discussion and recommendations of the Advisory Council are recorded and available in Council minutes.

c) Each fall, and for the first time in spring 2006, students complete a course evaluation for each course they attend in the Department of Technology. When evaluations reflect a need or deficiency in an area of the program, the issue is brought up during faculty meetings and changes are made based upon student feedback (considering all repercussions of making the noted changes). The Department Chairperson archives course evaluation data.

d) Following each semester, GAIT faculty attend a program-specific staff retreat. During this offsite meeting, faculty discuss class progress and program curriculum. Through reflection on each semester and discussion regarding needs and successes, ideas for program changes are generated. These changes are implemented as appropriate and approved where necessary. The Program Coordinator provides a written agenda for each semester's staff retreat.

e) A majority of changes occur through informal qualitative program assessment. First, during Career Connections, industry professionals have an opportunity to tour the GAIT facilities (to include a review of equipment) and meet faculty and students. This two-day event is an excellent opportunity to gain significant feedback and recommendations of current and potential equipment as well as critique of student knowledge and professionalism. It is rather common that in casual conversation industry professionals may recommend to a faculty member the need to incorporate a new product, tool, or piece of equipment that would be compatible to current industry

production. The professionals who attend Career Connections are highly respected and their advice is strongly considered by program faculty and administrators. Furthermore, all participants of Career Connections complete an evaluative survey in which they provide feedback on the two-day event. GAIT program administrators and faculty review these evaluations.

Second, a stipulation of one of the private funding sources for the GAIT program is that some of the money be spent on site tours. As a class or special interest group, students regularly visit printing and packaging companies throughout the state of North Carolina. In addition to gaining an appreciation for the magnitude of the Graphic Communications industry, students and faculty are exposed to current trends. More often than not, information gained and processes observed while on these tours generates interest, in students and faculty members, to incorporate a new technology, practice, product, or process into the GAIT curriculum.

Finally, professional conferences are another opportunity for faculty members and students to network with industry professionals. In this setting GAIT representatives are exposed to keynote addresses, presentations, product and equipment samples, and industry tours all highlighting Graphic Communications, and often one specialized area (such as Flexography at the annual forum of Flexographic Technical Association). Opportunities to gather information on current trends abound at professional conferences and participants usually return excited about a new product, a fancy tool, a catchy layout idea, new curriculum ideas, and so on.

Status:

Compliant Partial-compliance Non-compliant

Chapter 5

Discussion and Recommendations

Statement of the Findings

The GAIT program employs a living operational system, which is continually modified and improved in the areas of academics, facilities, and administration. Until this research, the GAIT program did not apply regulated systems of measure and operation to the entire program. Because of an exploratory study of the Thomas W. Reese Graphic Arts and Imaging Technology program, it is concluded that the program will require some revisions and modifications to gain full compliance with the NAIT standards. Specific recommendations necessary for each standard to obtain full compliance are listed later in this chapter. However, there are three overriding areas of improvement that the GAIT Program will need to address prior to a site visit from NAIT.

First, the GAIT program needs to generate a program-wide assessment plan. In summary of details outlined later in this chapter, the assessment plan should provide specific direction for program measurement to include defining: who will be assessed; how often measures will be taken; what instrument will be used for each population; and who will administer, gather data, draw conclusions, write a summary report on each population measured, and state how program changes will be influenced by the assessment. Second, in addition to old checksheets which document curriculum changes, program faculty and administrators need to generate a system for tracking and archiving

program changes (to include the process of and catalysts for change in curriculum, faculty employed, facilities, equipment, and general operational procedures). Finally, a most significant addition to current program operation is the formation and implementation of measurable competencies (or learning outcomes) applicable to the entire program. These competencies will act as a measuring stick to insure that all areas of program operation exist for addressing at least one of the competencies identified. They will be used in all areas defined in the assessment plan and incorporated into all course syllabi. Classes should not be taught, nor equipment purchased, that does not direct the student to fulfillment of at least one program competency.

Discovered Benefits of the Study

There were unexpected benefits discovered because of this study. Initially, the perception was that because the program is not currently outcomes based, the GAIT program would require a significant amount of restructure in order to gain compliance for the majority of standards. (Not that the program was not functioning at a level to meet standard, but that the current structure, which works for GAIT, may not meet the requirements of the self-assessment.) This perception stems from the idea that a program (department, university, etc.) that is not currently using language relevant to *outcomes* in its curriculum and assessment procedures will have to invest a considerable amount of time on the restructure of course objectives and syllabi alone. The discovery was that the GAIT program currently has a vast amount of outcomes imbedded in the syllabi and classroom practices, yet there is no consistency and faculty are unfamiliar with the outcomes terminology.

Major components of the outcomes model such as: evaluation of curriculum, faculty, facility, and administration, and graduates; employer satisfaction of graduates; and Advisory Council assessment of the program (see figure 3) are all current practices of the Thomas W. Reese Graphic Arts and Imaging Technology Program. The major difference is that the evaluation tool used throughout each component varies according to the audience, and measures are not consistent. With much less effort than expected, the GAIT program can rather easily be transformed to an outcomes-based program with two simple steps: generate program learning outcomes (from current practices and syllabi language), and assess these outcomes at all levels. Thus, the assessment process is full circle and compares identical measures.

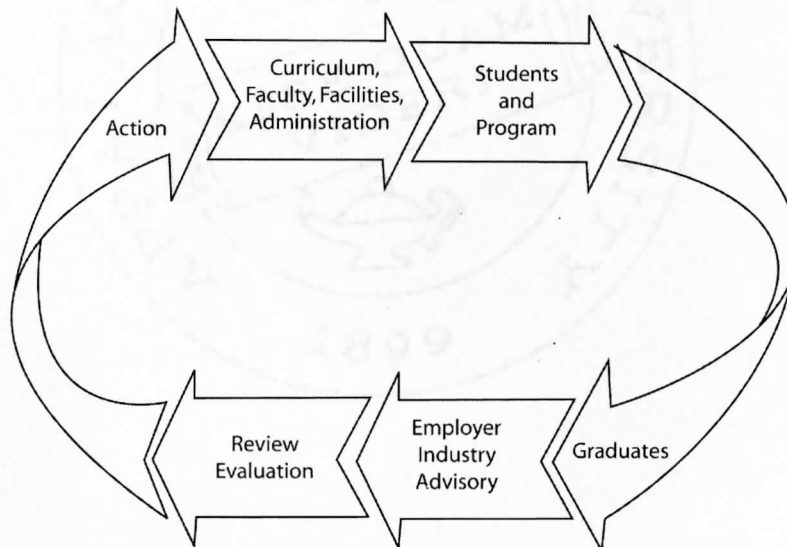


Figure 3: Closed Loop illustration (adapted from Swiatek and Konczakowska, 2001)

Similarly, the program has contact with many of the resources for external assessment, such as a strong industry advisory council, positive and consistent

communication with employers and industry internship placements, and access to many alumni with the assistance of ASU's notably excellent Alumni Center. Once consistent, measurable competencies for the program are established, they can easily be incorporated into the assessment of this pool of resources currently available for program evaluation.

An additional benefit of this study was the recognition of the need for uniformity in documentation of course syllabi. Although current syllabi do include course descriptions and objectives, the content and overall format is inconsistent. The course syllabus is the contract between the faculty member and the student. It is imperative that each party can fully understand the contract and that the student knows where to find the information needed. In an effort to insure clear communication of the contract, programs benefit from having consistent formatting for syllabi (El Nault, personal communication, January 25, 2006). For example, the top of the page would have course identification and faculty contact information, followed by the learning outcomes identified for the program that are addressed in this course, a course description, course objectives/goals, references utilized, student activities, and finally procedures for measuring outcomes, followed by a statement of university policy regarding plagiarism and disability rights.

Finally, many assessment measures and resources available throughout the university were discovered. Some examples are the services offered by the Office of Institutional Research, Assessment, and Planning. This office regularly assesses ASU students using statewide measures. The benefit is that the results can be disseminated into department areas of ASU and compared within the university. These results can also be compared to similar programs within the 16-school North Carolina University system.

The Office of Institutional Research, Assessment, and Planning also offers access to the university-wide on-line assessment tool. With minimal effort, a survey instrument can be generated and administered electronically, allowing for an estimated 20% return. This process will significantly reduce the amount of time, materials, and expenses previously used in paper copies and communication through the postal service. The software is very user friendly and allows questions to be permitted or omitted depending on previous answers.

Another discovered resource, which has been available, is the use of SIS to track student profiles of newly declared GAIT majors. This computer database stores academic information on all enrolled ASU students and is an excellent resource for retrieving current GPAs, high school transcripts, and major test scores of new GAIT students. This is valuable information when reporting on how the GAIT students compare to those in other majors and speaks to the quality of student who choose to major in GAIT.

Recommendations to GAIT

Based on the research results from chapter 4 and using resources for best practices in assessment (Appendix C), the following are recommendations for bringing the GAIT program into full-compliance with each of the NAIT standards.

5.1 Program Mission and Goals:

The program title, definition and mission shall be compatible with the NAIT definition of Industrial Technology. The program shall lead to a degree at the associate, bachelor's or master's level. NAIT approved definitions for degree programs are as follows:

b. Baccalaureate Degree: Programs that prepare individuals for positions that involve the management of complex technological systems.

General goals shall be established for each program that provide a framework for the development of specific measurable competencies.

Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized by the appropriate regional accrediting agency are considered for accreditation.

5.1.1. In written form, differentiate between:

- a) University Vision, Mission, and Goals
- b) Department Mission, Goals
- c) Program Mission, Goals, Definition, and Measurable Competencies (or *Learning Outcomes*)

Generate an explanation of hierarchy from the ASU vision statement down to the course objectives. The following illustration shows the importance of each lower level of measurement, generating a foundation for success of the level above. This illustration ultimately draws each GAIT course objective to the overall mission and vision of Appalachian State University. (See Appendix M for *Figure 4: GAIT Program Hierarchy*)

5.1.2. Develop an assessment plan to include:

- a) Definition of assessment terms
- b) Population to be assessed (For example: the overall program assessment will include details on assessment measures for current students, faculty, alumni, employers, industry professional, and advisory council members)
- c) Assessment methods or strategies to collect data (such as survey, student projects, collect CD portfolio, student-produced web based portfolio, etc.)
- d) Methods to evaluate the data, including rubrics or tests
- e) How assessment results are going to be analyzed
- f) Recommended actions to improve student learning based on results

g) Use of results – documentation of decisions and changes made (faculty meeting minutes, advisory council minutes, copy of curriculum modifications)

h) Timeline for assessment (yearly, biannually, every 3 years, each spring, etc.)

This assessment plan should be written, publicized, and shared. Development of the assessment plan should include assigning responsibility for each component and determination of the intended audience. Finally, the assessment plan should be cyclical, where results provide continual program evaluation and improvement.

5.1.3. Develop *learning outcomes* (or measurable competencies) by which the entire program can be held accountable. These outcomes should be measured when assessing each population stated in 5.1.2.b. above.

The following is a list of preliminary measurable competencies. These items were established on February 22, 2006 by the researcher based on current program syllabi content. When finalizing program-specific learning outcomes, the program coordinator and faculty team should consider any legal and educational ramifications to word choice. For example, “*Student shall be able to...*” may need to be replaced with “*Students are provided the opportunity to....*” The following statements are recommendations to be used in considering the broad subject matter when developing outcomes and have not been approved or adopted by GAIT administration or program faculty.

a) Student will have the opportunity to demonstrate theoretical elements of design for diverse printing methods.

b) Student will have the opportunity to employ a working knowledge and appropriate uses of computer programming and software needs in graphic communications.

- c) Student will have the opportunity to apply and explain printing operations with varied methods of current print technologies related to material, product specifications, and processing, considering environmental and economic impacts.
- d) Student will have the opportunity to demonstrate highly developed communication skills underpinned with ethics and professional behavior.
- e) Students will have the opportunity to demonstrate proficiency in math, physical science, and design with technical skills to assess and propose solutions for problems associated with technical and manufacturing production.

The outcomes developed should be evident in the program's mission, goals, and definition; and should be the core of program assessment through (at least) the following tools:

1. Direct measures (assessment through student demonstration)
 - a. Student products (papers, presentations, exam/test items) Example: Does the student's completed assignment exhibit his/her understanding of design principles and color management?
 - b. Senior project
 - c. Faculty teams to evaluate student work (Example: In discussion, do faculty agree that students are able to display an understanding of necessary information regarding substrates and inks? Do faculty have evidence to back up this belief?)
 - d. Student peer evaluation

- e. Portfolio materials (Example: Does the student present his/her portfolio in a professional manner with confidence, and is student able to use correct terminology regarding production of the contents?)

2. Indirect measures

- a. Recruiter feedback (for example, Career Connections)
- b. Internship employer survey (Example: Are employers of student interns reporting that students arrive with appropriate work ethics and communication skills?)
- c. Senior survey (Example: Can students identify how/where each of the learning outcomes was incorporated into the GAIT curriculum? And that it was valuable to them?)
- d. Alumni survey (Example: Do alumni report that graduates gained skills necessary for their career in graphic communications?)
- e. Alumni employer survey (Example: Do employers report that alumni are able to troubleshoot technical problems related to graphic communications?)

5.1.4. Provide *evidence* to support benchmarks in the standard. Examples of evidence may include:

1. Printed mission statement (preferable in public documents such as printed publications, marketing tools, board handbook, or program web site)
2. Written assessment plan adopted by faculty and administration

3. Alumni employment statistics (to support that students are, in fact, becoming employed in the graphic communications industry and at what supervisory/responsibility level).

5.2 Competency Identification & Validation:

Measurable competencies shall be identified and validated for each program. These competencies must closely relate to the general goals established for the program and validation shall be accomplished by a combination of external experts, an industrial advisory committee and follow up studies of program graduates.

See above recommendations for 5.1.3 for recommendations on generating measurable competencies. Once measurable competencies are established and agreed upon by GAIT program administrators and faculty, they should be presented to the Advisory Council for recommendations.

5.3 Identification of Assessment Measures:

Assessment measures shall exist for each of the measurable competencies identified for the program and follow-up outcome measures shall include a combination of student follow-up studies, employer satisfaction studies, advisory council program reviews and student success in advanced programs and credential examinations.

(See above recommendations for 5.1.2 and 5.1.3)

5.4 Program Structure & Course Sequencing:

Each program shall meet minimum foundation requirements. Programs may exceed maximum foundation requirements specified in each area, but appropriate justification must be provided. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self Study Report. Minimum and maximum foundation requirements for degree programs are listed below:

b. Bachelor s Degree: Major programs shall be a minimum of 120 semester hours and shall meet the following minimum/maximum foundation requirements:

<i>General Education (must include oral and written communications)</i>	<i>18-36</i>
<i>Mathematics</i>	<i>6-18</i>
<i>Physical Sciences</i>	<i>6-18</i>
<i>Management</i>	<i>12-24</i>

<i>Technical</i>	24-36
<i>Electives</i>	6-18

**Students must successfully complete a minimum of 15 semester hours of junior or senior level courses at the institution seeking accreditation.*

Appropriate laboratory activities shall be included in the program and a reasonable balance shall be maintained between the practical application of how and the conceptual application of why.

There shall be evidence of appropriate sequencing of courses in each major program to ensure that applications of mathematics and science are covered in technical and management courses. Further, sequencing should ensure that advanced level courses build upon concepts covered in beginning level courses.

5.4.1 Established learning outcomes specific to the GAIT program (See above recommendations for 5.1.3).

5.4.2 Generate uniform syllabi for all GAIT courses to insure that students are familiar with content and know where to locate necessary information.

5.4.3 Incorporate program learning outcomes into each course syllabus to maintain consistence and clearly define where skills for outcomes are being addressed.

5.4.4. In an effort to come into compliance with the NAIT standards, increase required math to at least 6 hours. The students who begin the GAIT program in the 2006-07 year fall under the new course requirements where science requirements are defined to meet the need of the required 12 hours of physical science. However, the new Checksheet will still require only 4 credit hours of Math (as selected in General Studies core curriculum).

It may be the case that this one portion of just one standard is not a significant issue. It is likely that the program can still acquire accreditation without increasing the amount of Mathematics required. Additionally, with the upcoming changes in the university-wide core curriculum, it is very possible that these changes will include an increase in credit hour requirements in math.

5.5 Student Admission & Retention Standards:

There shall be evidence showing that the quality of Industrial Technology students is comparable to the quality of students enrolled in other majors at the institution. The standards for admission and retention of Industrial Technology students shall compare favorably with institutional standards. Sources of admission information may include test scores and grade rankings. Sources of retention information may include general grade point averages of Industrial Technology students compared to majors in other institutional programs.

5.5.1. Regarding program admissions: Utilize SIS to compile a profile of GAIT

admissions (major declarations or transfer students only, not university admissions into General Studies) each semester to include each student's:

1. High school Grade Point Average (GPA)
2. University admission test scores (SAT/ACT)
3. ASU GPA at time of declaration (after >30 hrs)
4. Credit hours earned at time of declaration

Furthermore, it should be determined who is responsible for collecting this data (program coordinator, each faculty advisor, or the department secretary, for example), when the data is to be collected, and what will be done with the data collected.

This data will provide program administrators with student admission profiles and is useful not only in meeting this standard, but in reporting to Advisory Council members, industry professional, potential employers, college and university administrators and any other source where providing student profile information will be useful.

5.5.2. If data collected in 5.5.1 are available from other ASU programs, compare these data to that of other majors across the department and university. Again, in a program-wide assessment plan, determine who, when, where, how, and to which ASU program(s) the data will be compared.

5.5.3. Establish methodology for retention measurement of students enrolled in the GAIT program. An example of a valid and useful assessment would be to track how many of the students who take the introductory courses (such as Graphic Communications I and Electronic Imaging) become enrolled in the program (declare their major to be GAIT) , take advanced courses, and eventually graduate from the program.

5.5.4. Determine a method of compiling a report of program admission and retention information for tracking students of the GAIT program on an annual basis. Report information should answer the following questions: who is to be responsible for gathering the information, where will it be collected and using what tools, who is responsible for compiling a report, what enrollment and retention specifics the report will include, when will the report be available each year, who is the target audience for the report, how will the report be made available, and where will reports be archived?

5.8 Program Operation:

...A course syllabi shall be available for each course that appropriately describes course objectives, content, measurable competencies, references utilized, student activities and competency measurement criteria.

Once program outcomes (or measurable competencies) are established, incorporate these outcomes into the syllabi of courses where the competency is addressed. Some courses may address all of the competencies (such as a senior capstone course, where other courses may only address a few). For example, prior to listing individual course objectives, each syllabus should list competencies appropriate to the course. Again, if syllabi are based on a program-wide template, there will be little confusion among the students regarding course content and what is expected of them.

5.9 Student Satisfaction with Program:

Student evaluations of the program shall be made at the time of graduation. These evaluations shall include student attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available for student evaluations of the program.

Student attitudes related to the importance of the specific competencies identified for the program can be assessed in the Senior Capstone Course through the use of a survey. Anonymous online surveys are easy to generate through the Office of Institutional Research, Assessment, and Planning and will provide ease of access to the student and quick results in various formats for reporting and recordkeeping. For consistency, an assessment time should be determined (for example, at the last class meeting for the semester, before final exams, or two weeks prior to the last day of class). This measure should be included in the GAIT program's assessment plan.

5.10 Initial Employment of Graduates:

The initial placement, job titles, job descriptions and salaries of graduates shall be tracked on an annual basis. The initial jobs held by students shall be consistent with program goals. Summary data shall be available for the initial employment of graduates.

There is an alumni survey currently in its final stages of revision and will be administered to all alumni of ASU's Department of Technology following spring break 2006. The results of this survey will provide data for the GAIT program specific to GAIT alumni, and will be available for generating a report to meet the requirements of this standard. In harmony with this standard, the department administrators intend on releasing this survey annually to track each new graduates' initial employment status.

If, however, the department does not follow through with this data collection, it will be the responsibility of the GAIT program to retrieve this data annually. That being the

case, it is recommended that an on-line survey be generated with the assistance of the Office of Institutional Research, Assessment, and Planning and ASU's Alumni office. With little to no modifications, the current alumni survey can be administered to GAIT alumni only with very little effort. Alumni contact information is available as printed mailing labels and/or electronic means to include email listings, by request from the Alumni office. In addition, the university survey instrument allows for easy data retrieval.

Again, a summary of data would need to be written to address alumni employment and this report should be made available to NAIT visiting teams. This assessment process should also be included in the program's assessment plan.

5.11 Job Advancement of Graduates:

The advancement of graduates within organizations shall be tracked on a regular basis (two to five years) to ensure promotion to positions of increasing responsibility. Summary data shall be available for the job advancement of graduates.

Information regarding this standard is also being collected in the above stated department-wide alumni survey (refer to Recommendations to GAIT 5.10). The same recommendations apply here with necessary changes to address job advancement of graduates.

5.12 Employer Satisfaction with Job Performance:

Employer satisfaction of the job performance of graduates shall be tracked on a regular basis (two to five years) including employee attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available showing employer satisfaction with the job performance of graduates.

Generate a list of alumni employers. Some options for creating such a list are 1) through personal communication, gather information in the student's final semester as

they receive jobs; 2) conduct an alumni survey to include information requesting employer contact information and gaining permission to contact employers; 3) request employment data on the alumni from the Alumni office and the Career Development Center; and 4) through personal communication, identify which Career Connections industry representatives and advisory council members employ ASU GAIT graduates.

Generate an assessment tool for gathering the information. In an effort to *close the loop*, all questions asked of the employers should directly relate to the program's measurable competencies. Once an assessment plan is established for measurement of this competency, all processes necessary for data collection and reporting should be included in the Program's Assessment plan.

5.13 Student Success in Advanced Program:

If a goal of the program is to prepare students for advanced studies, then the success of students in the advanced study programs shall be tracked and confirmed. Summary data shall be available showing student success in advanced programs.

In the event that the current or future GAIT program coordinator or Technology Department chairperson incorporates a goal of advanced education into the GAIT program, it is recommended that a tracking system be established prior to implementing such goal. The previously discussed departmental alumni survey (Recommendations to GAIT 5.10 and 5.11) can again be applied to requirements for this standard. The survey to be administered spring 2006 includes data collection for tracking students who are currently pursuing or have obtained advanced education. Refer to Recommendations to GAIT 5.10 (above), with necessary revisions based on content for this standard.

5.14 Student Success in Passing Certification Exams:

If a goal of the program is to prepare students to pass certification examinations, then the success of students in passing these examinations shall be tracked and confirmed.

Summary data shall be available showing student success in passing certification exams.

In the event that the current or future GAIT program coordinator or Technology Department chairperson initiates a required examination based on industry certification, it is recommended that a tracking system be established prior to implementing such examination requirement. The recommended tracking system must be reported with each NAIT re-accreditation process and should therefore include at least:

5.14.1. data collection (i.e., student demographics and coding, date and title of examination administered to the student, test taken, and students' score),

5.14.2. data analysis (i.e., number of students passing, number of attempts before pass, students' GAIT program track),

5.14.3. report summary (i.e., how often it will be written and who is responsible for writing the summary), and

5.14.4. archiving (i.e., how long and where will the examination documents and summary be stored).

5.15 Advisory Council Approval of Overall Program:

An industrial advisory council shall exist for each program with responsibility for competency validation and the evaluation of overall program success. Guidelines for the advisory council shall exist that include: (1) criteria for member selection; (2) procedures for selecting members; (3) length of member appointment; (4) council responsibilities; (5) frequency of meetings (at least one per year); and (6) methods of conducting business. Minutes of advisory council meetings shall be made available to the visiting team.

Although the Advisory Council is in compliance with this standard, it is recommended that the Advisory Council establish written policies and procedures. The key points mentioned in this standard (the standard guidelines above listed as 1-6) are an adequate outline for such document. This policy manual would assure the Advisory Council, GAIT program administrators, faculty, and students of the exact responsibilities of council members and would act as a tangible resource manual to new Advisory Council members. In addition, Council members may consider the value of including a service term for members as well as officers. A documented service term would allow for transition of members and officers (for example, when there is a need to remove a member or when a member would like a release from their Council responsibility). Individuals serving on the Advisory Council are professionals with careers and responsibilities outside of the GAIT program. This change in policy may be appealing to high profile individuals if they can be assured that it is not a lifetime commitment.

5.16 Outcome Measures Used to Improve Program:

There shall be evidence presented showing how outcome measures ...have been used to improve the overall program.

The program is currently measuring many of the necessary areas to meet this standard and program changes are occurring as a result. The program should continue with current evaluations, incorporating outcome measures once established. Generation of an assessment plan (as noted in Recommendations to GAIT 5.1.2.) will provide structure for program evaluation. Written reports of the assessment plan results will provide an outline for documenting changes implemented based on assessment results. Additionally, program changes incorporated can be documented in each faculty members' annual

report. The key point is to document program changes, specifically those that result out of assessment using the programs measurable outcomes.

Recommendations to NAIT

This assessment tool is in its infancy stages of implementation. The standards used in this research are a final draft approved for testing. As Beta implies, these 16 standards have not been adopted as common practice for NAIT and will not be until they have been tested in colleges and universities and have endured scrutiny and change. Only then will they be available as an assessment tool and eventually phased into use with the NAIT accreditation process. For this purpose, it is vital to the evolution of this document that the standards are in fact tested in real world educational settings; not only used as a measurement tool for program or departmental operation, but to be measured against its own usability. It is the intent of the researcher that this document be an asset to the NAIT standards committee and other institutions wishing to pursue analysis against the new 16 outcomes based standards. With that said, the following are a list of recommendations for NAIT regarding the use of this instrument.

Definition of terms from the perspective of NAIT is vital to completion of the self-study. This need is reinforced through observance of the NAIT Accreditation Board at the 2005 National conference in St. Louis, Missouri. The board held several discussions regarding the inconsistency of language that colleges and universities used in their accreditation, follow-up, and re-accreditation proposals to NAIT. Board members voiced frustrations in deciphering terminology, unanswered subject matter, insufficient information, and so on. It is believed that this frustration stems from NAIT's lack of

providing consistency through definition of terms and explanation of standards. Although NAIT does provide accreditation consultants, available to critique the self assessment prior to submitting it, there is a fee to utilize this service which may not be justifiable to small budget colleges or universities, or a student-run program assessment.

Initially, providing detailed explanations of standards for the use of institutions seeking accreditation may evolve into a very time consuming and grueling process for accreditation board members and/or any accreditation committees. However, the investment will prove to be beneficial in the future as visiting accrediting teams, the accreditation board, and the institution being examined will each be familiar with the exact expectations of NAIT's self-assessment. Defined terms will allow the institution to use consistent language, resulting in a more fluid accrediting site visit, self-assessment review, and board approval process. Similar to the use of measurable competencies being used for triangulation, detailed explanations of standards would provide consistency of measurement and areas can be compared equally.

In concert with the need for defined terms, standard 5.4 refers to credit hours required in "management" courses. This term is not clear about what is being asked regarding the program curriculum. For example, the GAIT program currently recommends that GAIT majors choose their minor in business. There are many courses which lend themselves to management within the business minor, but they don't have the word "management" in the course title. This leads to potential discrepancy and opportunity for misinterpretation. Do business courses qualify as management courses? Should the term "management" be defined by the course syllabi and course objectives? Ultimately, must the term

management be explicitly stated in the course title or objectives? Clarity is requested once more to insure that the institution provides the information that NAIT is requesting.

Furthermore, the new assessment model is based on program outcomes and is posed as an "Outcomes Model." With the exception of standard 5.16 ("...showing how outcome measures..."), language in the standards refer to "Measurable Competencies" not outcomes ("Measurable competencies shall be identified...", 5.2). Along the same principles of the need for definitions and explanation of terms, the standards committee of NAIT should consider implementing consistency in language throughout the self-assessment criteria. For example, are *measurable competencies* and *learning outcomes* the same? If not, in what ways are they different?

There was no funding provided for this research, therefore it was unrealistic to obtain software tools designed for assessment and outcome tracking. The method for data collection for this research was streamlined through the use of Excel tables and a "working document." The working document, created in Word, fostered organization in which information could easily be added (see Appendix K). The full text for each standard was copied onto a new page within the document. Electronic highlighting indicated the key points or concepts within each standard. These concepts were recognized as critical and requiring detailed explanation if the program were to be scored in compliance with the standard.

Beneath the standard, a table was created with three columns: concepts, what is needed, and where to find it. Each highlighted concept was extracted from the standard above and inserted into a new row, under "concept." Then, information was added to the next two columns indicating what exactly is needed and where the information can be

retrieved. Additional information in support of the concepts was also copied and pasted into the space below the table. This working document allowed all vital information to be readily available when constructing narrative regarding standard compliance.

Additionally, self-generated spreadsheets in Excel proved to be a useful tool in grouping data such as annual program enrollment or course syllabi content (see Appendix L for a sample). Both of these forms of electronic files can be modified annually as needed for program documentation as well as to prepare for upcoming accreditation. These data collection systems are recommended for other programs or departments seeking organization in the self-assessment process where assessment software is not available.

Additional recommendations

Chapter 4 was written to replicate the required documentation necessary for a NAIT site visit and accreditation application. The next logical step for the GAIT program is to make recommended program changes toward program compliance with NAIT, some of which are already set to be in place for the 2006-2007 academic year. Next, Chapter 4 should be modified to reflect program changes and submitted to NAIT with the necessary application fee and preliminary program documentation. Further preparation for receiving a NAIT visiting team is to gather all supporting materials. Program faculty must identify any proofs of evidence necessary in each standard to support the statements of compliance. Documents viable as program support should include, but are not limited to, all faculty member's vitae and their position description, Advisory Council minutes, course syllabi for the academic year at time of the self-study, current and previous

program checksheets, the ASU *Undergraduate Bulletin*, program (or department) strategic plan, reports from program assessments (such as alumni surveys, employer feedback, and program evaluation by industry professionals), and a list of GAIT program equipment.

Additional resources to gather recommendations for program improvement would be:

(a) Peer institutions identified as having academic similarities to ASU (that also hold current NAIT accreditation), to be used as models for providing appropriate recommendations in the areas where NAIT standards are not currently being met by ASU's GAIT program; and (b) GAIT Advisory Board members and industry professionals who can provide resources and recommendations that align the program with current industry practices.

In addition, it is recommended that other programs within ASU's Department of Technology initiate a program-specific self-assessment. This process will provide valuable program operation data for overall program improvement. Within these Industrial Technology programs, it is recommended that a graduate-level, student-led assessment be utilized as a means to provide assistance for already busy program coordinators and faculty. In addition to relief for the faculty, a student-led assessment will provide the student with an opportunity to become intimately involved with the program, develop relationships with faculty and university staff beyond the classroom, and enhance their evaluative thinking processes and written communication skills.

In addition to continued pursuit of NAIT accreditation for the GAIT program, it is suggested that the results of this study be used in obtaining accreditation with PrintED® (Graphic Arts Education and Research Foundation, 2006). Although this accrediting body

is smaller than NAIT, its standards are specific to the print industry. In fact, they currently only provide accreditation in the area of offset lithography. Unlike NAIT, this accrediting source is directly linked to funding opportunities. Establishing accreditation status through PrintEd will increase the opportunity for the GAIT program to augment its external funding sources, will establish Appalachian State University as the sole educational facility recognized by PrintEd in North Carolina, and finally, will give GAIT faculty and administrators the opportunity to join the PrintEd task force in generating accreditation standards for other areas of print such as flexographic and digital printing.

Conclusions

The Process

Initially this assessment was intended to consist of a self-study using the self-assessment measures of the Malcolm Baldrige National Quality Program recognition. However, after attending a conference for potential applicants in Washington, DC, Baldrige representatives recommended a start with assessment for a nationally recognized and specialized accreditation organization first. The accreditation process would ensure that the GAIT program is operating within (or excelling beyond) recognized standards. Baldrige representatives suggested that once the program has obtained accreditation there would be a stronger possibility of gaining recognition as a national quality program. Furthermore, the Baldrige self-assessment is significantly larger than NAIT's, so much so that it would have been an unrealistic task for a graduate student to complete alone, and definitely not in the time allocated. The result of this

research project will be an asset not only for NAIT accreditation but also for future self-assessment against the Malcolm Baldrige National Quality Program standards.

The process of completing this research involved trials, while also unveiling benefits. The main difficulty faced throughout this process was the challenge that the instrument was not utilized in the full capacity of its intended purpose. The self-assessment portion of NAIT accreditation is intended to prepare the university, department, or program for a critical site visit. Each standard of the self-study requires evidence and documentation in support of the program's narrative regarding compliance. By contrast, the purpose of this study, although rigorous and time consuming, was to simply evaluate the GAIT program's current practices against each NAIT standard, not to generate evidence of compliance. In other words, this study focused on the first step of self-study, but did not include attempts to change practices which would be done in a real self-study. The difficulty arose when a standard was not in compliance. A significant example of this challenge developed immediately in standard 5.2. The GAIT program does not operate with any form of stated measurable program competencies. Because of this lack, GAIT was non-compliant with NAIT requirements for standard 5.2. There was temptation to generate program competencies because first of all, it would not be a difficult task and second, the competencies could then be used throughout the rest of the evaluation where NAIT standards made reference to measurable competencies. However, keeping in line with the research questions, it was vital to only report the program's current practices. This difficulty continued to manifest itself throughout the research process when a standard was non- or partial-compliant, but where there was potential for compliance through generation of a survey instrument or an assessment plan, and so on. Relief from

this conflict was found in the second research question where, if a standard was not in full compliance, program recommendations would be provided.

Another significant challenge faced throughout his process, as previously alluded to, was the difficulty of using an outcomes-based assessment model against a program which does not employ documented learning outcomes. With the initial mindset that outcomes could easily be generated and then used for measurement throughout, this was not a concern when considering the assessment tool. Many standards refer to these established program competencies and were therefore ranked in partial- or non-compliance. Since the NAIT standards were interrelated with measurable competencies (or outcomes), the researcher frequently questioned the choice to use an outcomes model as a measurement tool. There was relief to consider that the main thread among all non- or partial-compliant standards was the lack of program learning outcomes. Once established, they can be plugged into all areas of program operation and assessment and instantly bring the program into NAIT compliance for most standards.

Another discovery regarding the process was that procedures for acquiring information were not as difficult as anticipated. Faculty members were willing to provide materials, participate in interviews, or give direction to the appropriate source for gathering program information. On a few occasions, there were scheduling conflicts and missed appointments. Nevertheless, for the most part, administrators and faculty were interested in providing resources. This was a welcome surprise as the majority of data collection depended on someone other than the researcher.

Finally, a valuable asset to this research process was the make-up of the Thesis Advisory Committee. Faculty members on the committee include a technical specialist

(the GAIT Program Coordinator), highly involved and familiar with all aspects of the GAIT program; a critical editor (the Graduate Program Coordinator), who provided detailed grammatical and structural critiques in addition to her familiarity with program assessment for accreditation; and a long-time member and officer of NAIT (the Department of Technology Chairperson) who is currently a visiting NAIT accrediting team chairperson. This team provided support, expertise, and critique in all vital areas of this research process.

Summary

Ultimately, the GAIT program provides excellent education to students in the field of Graphic Communications through dynamic teaching and abundant hands-on opportunities. However, in light of this assessment, there are limited resources being consistently tracked and reported which support such conclusions of excellence. In an age of accountability and a requirement to provide evidence, it is imperative that the program generate program specific learning outcomes (or measurable objectives), develop an assessment plan (measure attainment of objectives), and record assessment outcomes as a method for providing tangible results. These results will provide substantial evidence to support the fact that graduates of the GAIT program find good jobs and are competitive employees in the graphic communications industry, that students are satisfied with the education they receive, and that the program subject matter and equipment are necessary and relevant to industry methodology.

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http://www.ed.gov/admins/finaid/accred/accreditation_pg8.html

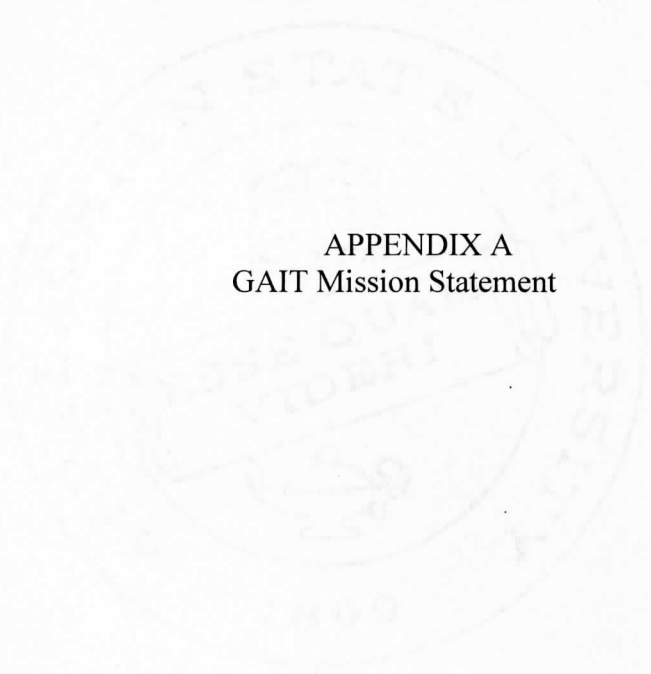
United States Department of Education (2005c). *Overview*. Retrieved on October 23,

2005 from <http://www.ed.gov/admins/finaid/accred/accreditation.html#Overview>

Walvoord, B. (2004) *Assessment Clear and Simple*. John Wiley and Sons: Hoboken, NY.

Wilhelm, A.G. (2004). A Faustian bargain for the digital age. In *Digital nation: Toward an inclusive information society*, pp. 37-57. Cambridge, MA: The MIT Press.

APPENDIX A
GAIT Mission Statement



Appendix A: GAIT Mission Statement (Note: bold text indicates current program goals)

The Thomas W. Reese Graphic Arts and Imaging Technology (GAIT) program at Appalachian State University prepares students for entry level supervisory and staff positions in the graphic communications industries.

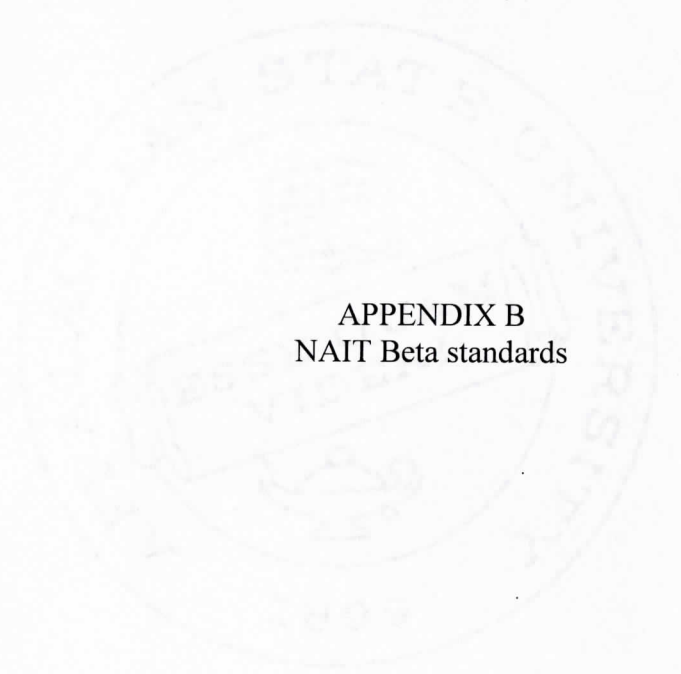
Our Mission Statement

We the faculty of Appalachian State University's Graphic Arts and Imaging Technology Program charge ourselves with the following: We will **provide our students with the knowledge and skills** they need to become tomorrow's competent employees. The faculty and administration will do our best to instill in them **creative problem solving abilities, higher order thinking skills, a desire to continue to learn, a sense of self-motivation and an open receptiveness to new, challenging ideas and options.** We believe that **interpersonal skills should be fostered in students, including work ethic, loyalty, listening and presentation skills.**

We also charge ourselves with the responsibility to remain accountable to our students, by **providing the best possible facilities, by keeping current with new technologies, by improving our teaching abilities, curriculum and by maintaining the vital and necessary connection with our industry base.**

Our mission is in concert with the broader mission of Appalachian State University, which speaks to offering a well-rounded liberal education and an opportunity to pursue a special field of inquiry.

APPENDIX B
NAIT Beta standards



Appendix B: NAIT Beta standards

The following standards of measurement have been slightly edited to reflect only information necessary for this study (for example, information specific to Associates or Master degree programs have been omitted).

5.1 Program Mission and Goals:

The program title, definition and mission shall be compatible with the NAIT definition of Industrial Technology. The program shall lead to a degree at the associate, bachelor's or master's level. NAIT approved definitions for degree programs are as follows:

- b. *Baccalaureate Degree*: Programs that prepare individuals for positions that involve the management of complex technological systems.

General goals shall be established for each program that provide a framework for the development of specific measurable competencies. Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized by the appropriate regional accrediting agency are considered for accreditation.

5.2 Competency Identification & Validation:

Measurable competencies shall be identified and validated for each program. These competencies must closely relate to the general goals established for the program and validation shall be accomplished by a combination of external experts, an industrial advisory committee and follow up studies of program graduates.

5.3 Identification of Assessment Measures:

Assessment measures shall exist for each of the measurable competencies identified for the program and follow-up outcome measures shall include a combination of student follow-up studies, employer satisfaction studies, advisory council program reviews and student success in advanced programs and credential examinations.

5.4 Program Structure & Course Sequencing:

Each program shall meet minimum foundation requirements. Programs may exceed maximum foundation requirements specified in each area, but appropriate justification must be provided. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self Study Report. Minimum and maximum foundation requirements for degree programs are listed below:

b. *Bachelor s Degree*: Major programs shall be a minimum of 120 semester hours and shall meet the following minimum/maximum foundation requirements:

General Education (must include oral and written communications)	18-36
Mathematics	6-18
Physical Sciences	6-18
Management.....	12-24
Technical	24-36
Electives	6-18

**Students must successfully complete a minimum of 15 semester hours of junior or senior*

level courses at the institution seeking accreditation.

Appropriate laboratory activities shall be included in the program and a reasonable balance shall be maintained between the practical application of how and the conceptual application of why.

There shall be evidence of appropriate sequencing of courses in each major program to ensure that applications of mathematics and science are covered in technical and management courses. Further, sequencing should ensure that advanced level courses build upon concepts covered in beginning level courses.

5.5 Student Admission & Retention Standards:

There shall be evidence showing that the quality of Industrial Technology students is comparable to the quality of students enrolled in other majors at the institution. The standards for admission and retention of Industrial Technology students shall compare favorably with institutional standards. Sources of admission information may include test scores and grade rankings. Sources of retention information may include general grade point averages of Industrial Technology students compared to majors in other institutional programs.

5.6 Administrative Support & Faculty Qualifications:

There must be evidence of appropriate administrative support from the institution for the Industrial Technology program including appropriately qualified administrators, an adequate number of full time faculty members and budgets sufficient to support program goals. Full time faculty assigned to the teach courses in the Industrial Technology program must be appropriately qualified. Faculty program qualifications shall include emphasis upon the extent, currency and pertinence of: (a) academic preparation; (b) industrial professional experience (such as technical supervision and management); (c) applied industrial experience (such as applied applications); (d) membership and

participation in appropriate Industrial Technology professional organizations; and (e) scholarly activities. The following minimum qualifications for full time faculty are required (except in unusual circumstances which must be individually justified):

b. *Bachelor's Degree*: A bachelor's and master's degree in a discipline closely related to the faculty member's instructional assignment. A minimum of fifty percent of the regular full-time faculty members assigned to teach in the major(s) program shall have an earned doctorate (exceptions may be granted for highly specialized programs or when a program is in place to achieve this standard within a reasonable length of time).

Policies and procedures for faculty selection, appointment, reappointment and tenure shall be clearly specified and shall be conducive to the maintenance of high quality instruction. Faculty teaching, advising and service loads shall be reasonable and comparable to the faculty in other professional program areas.

5.7 Facilities, Equipment & Technical Support:

Facilities and Equipment, including the technical personnel support necessary for maintenance, shall be adequate to support program goals. Evidence shall be presented showing the availability of computer equipment and software programs to cover functions and applications in each program area.

Facility and equipment needs shall be included in the long-range goals for the program.

5.8 Program Operation:

Evidence shall be presented showing the adequacy of instruction including: (a) motivation and counseling of students; (b) scheduling of instruction; (c) quality of instruction; (d) observance of safety standards; (e) availability of resource materials; (f) teaching and measurement of competencies (specific measurable competencies shall be identified for each course along with the assessment measures used to determine student mastery of the competencies); (g) supervision of instruction; and (h) placement services available to graduates.

A course syllabi shall be available for each course that appropriately describes course objectives, content, measurable competencies, references utilized, student activities and competency measurement criteria.

5.9 Student Satisfaction with Program:

Student evaluations of the program shall be made at the time of graduation. These evaluations shall include student attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available for student evaluations of the program.

5.10 Initial Employment of Graduates:

The initial placement, job titles, job descriptions and salaries of graduates shall be tracked on an annual basis. The initial jobs held by students shall be consistent with program goals. Summary data shall be available for the initial employment of graduates.

5.11 Job Advancement of Graduates:

The advancement of graduates within organizations shall be tracked on a regular basis (two to five years) to ensure promotion to positions of increasing responsibility.

Summary data shall be available for the job advancement of graduates.

5.12 Employee Satisfaction with Job Performance:

Employee satisfaction of the job performance of graduates shall be tracked on a regular basis (two to five years) including employee attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available showing employee satisfaction with the job performance of graduates.

5.13 Student Success in Advanced Program:

If a goal of the program is to prepare students for advanced studies, then the success of students in the advanced study programs shall be tracked and confirmed. Summary data shall be available showing student success in advanced programs.

5.14 Student Success in Passing Certification Exams:

If a goal of the program is to prepare students to pass certification examinations, then the success of students in passing these examinations shall be tracked and confirmed.

Summary data shall be available showing student success in passing certification exams.

5.15 Advisory Council Approval of Overall Program:

An industrial advisory council shall exist for each program with responsibility for competency validation and the evaluation of overall program success. Guidelines for the advisory council shall exist that include: (1) criteria for member selection; (2) procedures for selecting members; (3) length of member appointment; (4) council responsibilities; (5) frequency of meetings (at least one per year); and (6) methods of conducting business. Minutes of advisory council meetings shall be made available to the visiting team.

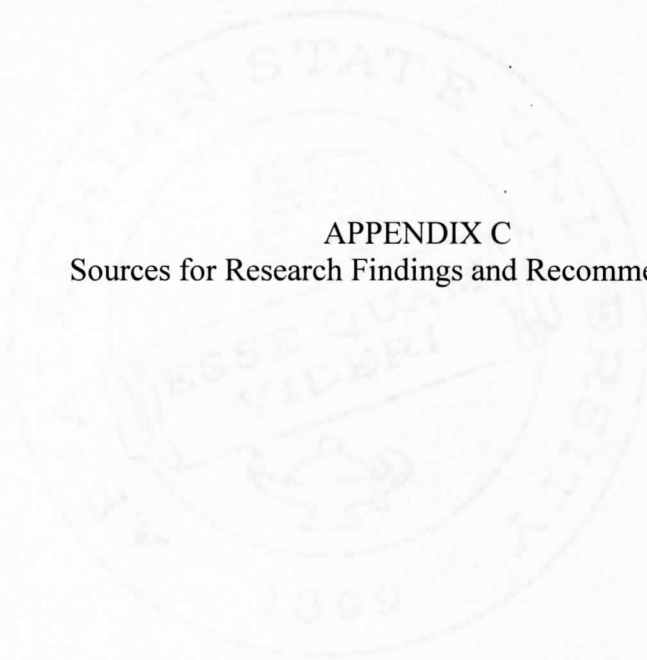
5.16 Outcome Measures Used to Improve Program:

There shall be evidence presented showing how outcome measures (Student Satisfaction with Program, Initial Employment of Graduates, Job Advancement of Graduates, Employer Satisfaction with Job Performance, Student Success in Advanced Programs, Student Success in Passing Certification Exams and Advisory Council Approval of Overall Program) have been used to improve the overall program.

National Association of Industrial Technology (2005). *Accreditation >Accreditation*

Standards 2003-2005 Proposed Changes (PDF Format). Retrieved on August 29, 2005 from <http://nait.org/>

APPENDIX C
Sources for Research Findings and Recommendations



Appendix C: Sources for Research Findings and Recommendations

5.1 Program Mission and Goals

Department of Technology (2005). *Graphic Arts and Imaging Technology*. Retrieved on October 29, 2005 from <http://www.tec.appstate.edu/gait/gait.html>

Graphic Communications Council. (n.d.). *Graphic Communications* [Flyer]. Clemson, SC: Graphic Communications Council and International Graphic Arts Education Association.

National Association of Industrial Technology (2003) *Industrial Technology Accreditation Handbook – 2003 Associate and Baccalaureate Degree* Retrieved on October 15, 2005 from <http://nait.org/accred/accreditationhandbook2003.html#1.2>

Nault, Eleanor, personal communication, November 25, 2005

Southern Association of Colleges and Schools (2005), *About the Commission*. Retrieved on November 27, 2005 from <http://www.sacscoc.org/about.asp>

University of North Carolina (2005). UNC Campuses. Retrieved on November 26, 2005 from <http://www.northcarolina.edu/content.php/campus/campusmap.htm>

Walvoord, B. (2004) *Assessment Clear and Simple*. John Wiley and Sons: Hoboken, NY.

5.2 Competency Identification & Validation

Robin Williams, personal communication, February 15, 2006

5.3 Identification of Assessment Measures

Robin Williams, personal communication, March 3, 2006

5.4 Program Structure & Course Sequencing

ASU General Education Checksheet

ASU GAIT Checksheet 2005-2006

GAIT course syllabi for courses TEC:

- 1012 Graphic Communications I
- 2102 Electronic Prepress
- 2112 Substrates and Inks
- 3002 Introduction to Flexography
- 3012 Graphic Communications II
- 3551 Technical Assistant
- 3622 Graphic Communications Seminar
- 3702 Electronic Imaging
- 3772 Print Production, Analysis, and Control
- 4512 Advanced Electronic Imaging/Cross Media
- 4588 Digital Printing
- 4566 Advanced Flexographic
- 4591 Advanced Offset Printing Methods
- 4622 Current Trends in Graphic Communications
- 4900 Internship

El Nault, personal communication, January 29, 2006

Robin Williams, personal communication, January 25, 2006; February 15, 2006

Jon Duff, personal communication, January 29, 2006

Rob Massey, personal communication, January 30, 2006

5.5 Student Admission & Retention Standards

Appalachian State University (2005) *Undergraduate Catalog*. Retrieved on November 30, 2005 from

http://www.registrar.appstate.edu/catalogs/pdfs_undergrad/02_mission.pdf

Academic Advising Center (2005). Declaring a Major. Retrieved December 4, 2005 from

<http://www.gstudies.appstate.edu/advising/transfer/policies/declaring.htm>

Graphic Arts and Imaging Technology (October, 2005). Proposed GAIT curriculum

Checksheet [Handout]. Boone, NC: Appalachian State University

Institutional Research, Assessment, and Planning (2005). *2003-04 Factbook-Highlights*.

Retrieved on November 29, 2005 from

http://www.appstate.edu/www_docs/depart/irp/factbook/factbook0304/2003-04students.html#majenroll

Massey, Rob, personal communication, November 2005

Office of Admissions (2005) *Minimum Course Requirements*. Retrieved November 27,

2005 from <http://www.admissions.appstate.edu/process/mcr.htm>

Office of Admissions, Appalachian State University (2005) *Transfer Students*. Retrieved

on November 27, 2005 from

<http://www.admissions.appstate.edu/process/transfer.htm>

Walvoord, B. (2004) *Assessment Clear and Simple*. John Wiley and Sons: Hoboken, NY.

5.6 Administrative Support & Faculty Qualification

Jeanie Davis, personal communication, February 1, 2006

Sharon Kencaid, personal communication, February 1, 2006

Appalachian State University (2006). *Department of Technology: Faculty*. Retrieved on

January 15, 2006 from <http://www.tec.appstate.edu/faculty.php>

Sid Connor, personal communication, February 8, 2006

Marie Hoepfl, personal communication, February 10, 2006

Academic Affairs (2006). *ASU Faculty Handbook*. Retrieved on February 8, 2006 from http://www.academicaffairs.appstate.edu/resources/facultyhandbook/facultyhandbook_122005.pdf

Department of Technology (2006). Promotion and Tenure. Retrieved on February 8, 2006 from http://www.tec.appstate.edu/documents/promotion_tenure_2005.pdf

National Association of Industrial Technology (2005) *NAIT Industrial Technology Baccalaureate Program Directory*. National Association of Industrial Technology: Ann Arbor, Michigan.

Robin Williams, Personal Communication, February 15, 2006

FTE report, unpublished document of ASU's Department of Technology

5.7 Facilities, Equipment & Technical Support

Tom Reeves, personal communication, January 20, 2006

Search Appalachian (2006). Retrieved on January 21, 2006 from <http://www.web.appstate.edu/search/>

Tec Support (2006) Right Now. Retrieved on January 21, 2006 from <http://appstate.custhelp.com/cgi-bin/appstate.cfg/php/enduser/home.php>

ASU Department of Technology (2005) *Strategic Plan for the Department of Technology*

ASU Department of Technology, GAIT program site visit

Robin Williams, Personal Communication, February 15, 2006

5.8 Program Operation

Robin Williams, personal communication, January 2006; February 15, 2006

Career Development Center (2006). *Students*. Retrieved on February 8, 2006 from

http://careers.appstate.edu/index.php?module=pagemaster&PAGE_user_op=view_page&PAGE_id=175&MMN_position=160:160

Marie Hoepfl, personal communication. February 10, 2006

5.9 Student Satisfaction with Program

Heather Langdon, personal communication, October 20, 2005

Robin Williams, personal communication, February 15, 2006

5.10 Initial Employment of Graduates

Parsons, Jodi (May 2005). *How to be Successful in the Graphic Arts Industry*

Unpublished Undergraduate Senior Honors Thesis, Appalachian State University,
North Carolina.

Sid Connor, personal communication, February 2006

5.11 Job Advancement of Graduates

Parsons, Jodi (May 2005). *How to be Successful in the Graphic Arts Industry*

Unpublished Undergraduate Senior Honors Thesis, Appalachian State University,
North Carolina.

Sid Connor, personal communication, February 2006

5.12 Employee Satisfaction with Job Performance

Parsons, Jodi (May 2005). *How to be Successful in the Graphic Arts Industry*

Unpublished Undergraduate Senior Honors Thesis, Appalachian State University,
North Carolina.

5.13 Student Success in Advanced Program

Robin Williams, personal communication, October 19, 2005; February 15, 2006

ASU Department of Technology (2005) *Strategic Plan for the Department of Technology*
(p. 21).

Sid Connor, personal communication, February 2006

5.14 Student Success in Passing Certification Exams

Robin Williams, Ph.D, personal communication, October 19, 2005

ASU Department of Technology (2005) *Strategic Plan for the Department of Technology*
(p. 21)

5.15 Advisory Council Approval of Overall Program

GAIT Advisory Board Mission Statement (Appendix D)

Sharon Kencaid, personal communication, January 19, 2006

Peter Krusa, personal communication, January 20, 2006

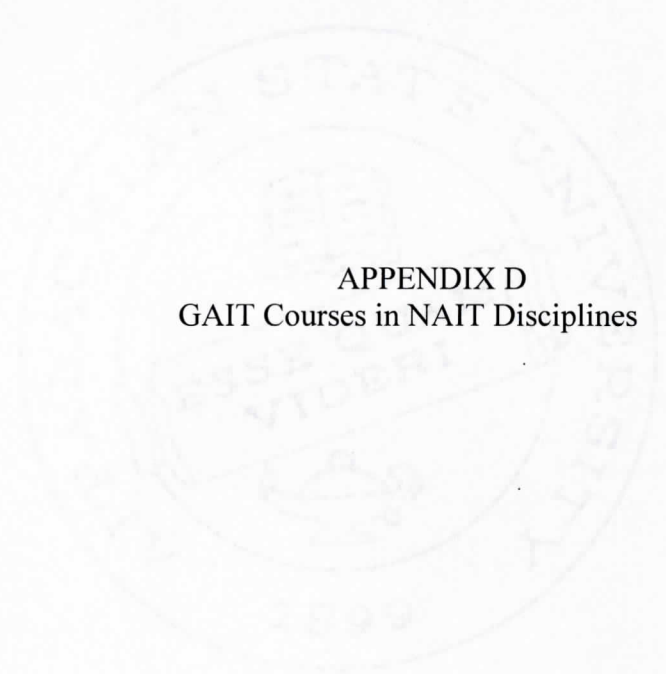
Robin Williams, personal communication, February 15, 2006

5.16 Outcome Measures Used to Improve Program

Robin Williams, personal communication, March 3, 2006



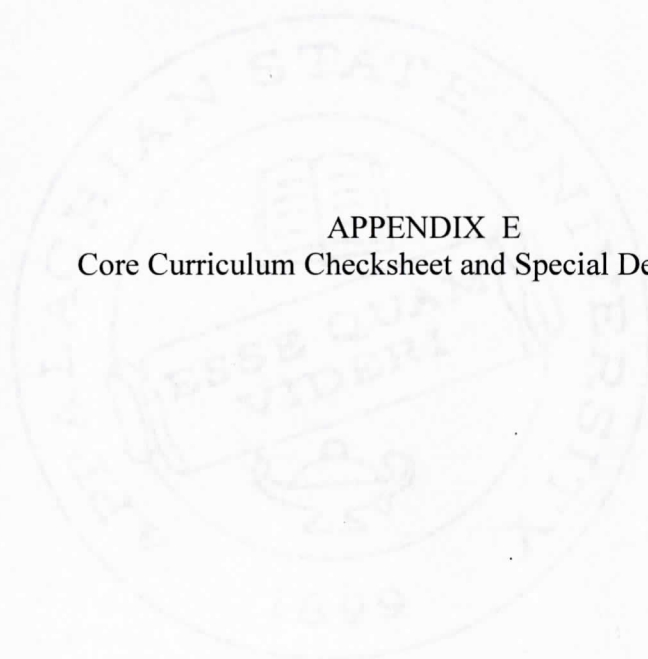
APPENDIX D
GAIT Courses in NAIT Disciplines



Appendix D: GAIT Courses in NAIT Disciplines

COURSE	total course hrs	ASU General Education Core							NAIT required Subject					
		English	Mathematics	PE	Natural Science	Social Science	Other social Sci.	Humanities	General Ed.	Mathematics	Physical Science	Management	Technical	Electives
<i>* students may choose from the sciences and may not choose Physical Science. The GAIT program does not require that they take a Physical Science.</i>														
ASU General Education	44	6		2	8	6	6	9		4	*	3		
INTERDISCIPLINARY COURSES														
Design Fundamentals	3												3	
Intro to business	3											3		
Public Speaking	3								3					
Legal Env. Of Business	3											3		
GAIT COURSES														
Graphic Communications I	3												3	
Electronic Prepress	3												3	
Substrates and Inks	3												3	
Introduction to Flexo	3												3	
Graphic Comm II	3												3	
Technical Assistant	1												1	
Graphic Comm Seminar	1												1	
Electronic Prepress	3												3	
Print Production, Analysis, and Control	3												1	2
Advanced Electronic Imaging/Cross Media	3													3
Digital Printing	3													3
Advanced Flexo	3											2	1	
Advanced Offset Printing Methods	3												2	1
Current Trends in Graphic Communications	2												1	1
Internship	8													8
Electives	5													5
total	106	6	0	2	8	6	6	9	3	4	0	15	42	5
BUSINESS MINOR														
ACC 1100 Principles of Accounting I	3												3	
ECO 2030 Principles of Economics-Price Theory	3												3	
CIS 3050 Fundamentals of Management Information Systems	3												3	
MGT 3010 Survey of Management	3												3	
MKT 3050 Principles of Marketing	3												3	
FIN 3010 Survey of Finance	3												3	
total	124	6	0	2	8	6	6	9	3	4	0	33	42	5

APPENDIX E
Core Curriculum Checksheet and Special Designators



Appendix E: Core Curriculum Checksheet and Special Designators

2004 - 2005

**Bachelor of Science (BS)
Non-Teaching
Degree Code 572 A**

**Checksheet for Technology Majors
Graphic Arts and Imaging Technology**

I. CORE CURRICULUM44
ECO 2030 (3) Principles of ECO-Price-Theory (required if Business Minor is pursued)

II. MAJOR REQUIREMENTS.....Minimum 58

*An overall 2.0 GPA is required in the major/18 sh must be completed at Appalachian
Students are strongly encouraged to take an introductory computer course before starting TEC courses*

Interdisciplinary Courses (12 sh)

ART 1011 (3) Design Fundamentals I (or Art 1001)

BUS 1050 (3) (CD/W) Introduction to Business

COM 2101 (3) (S) Public Speaking (C minimum)

LAW 2150 (3) Legal Environment of Business

Graphic Arts and Imaging Technology Block (46 sh)

TEC 1012 (3) Graphic Communications I

TEC 2102 (3) (C) Electronic Prepress

TEC 2112 (3) Substrates and Inks

TEC 3002 (3) Introduction to Flexography

TEC 3012 (4) Graphic Communications II

TEC 3551 (1) Technical Assistant

TEC 3622 (1) (W) Graphic Communications Seminar

TEC 3702 (3) Electronic Imaging

TEC 3772 (3) Print Production Analysis & Control

TEC 4512 (3) Advanced Electronic Imaging/Cross Media

TEC 4558 (3) Digital Printing

TEC 4566 (3) Advanced Flexographic Printing Methods

TEC 4591 (3) Advanced Offset Printing Methods

TEC 4622 (2) (W/S) Current Trends in Graphic Communications

TEC 4900 (8 sh min)(W) Industry Internship (Approved)

III. MINOR REQUIRED (outside the Technology

Department).....12 - 20

9 sh must be completed at Appalachian

General Business is encouraged but you may choose any other minor outside the Department of Technology. (Business Minors require an overall 2.0 GPA except for Information Systems which requires a 2.50 GPA)

Each minor differs in number of hours and requirements - see catalog

IV. FREE ELECTIVES (to total a minimum of 122 sh)..... 2 - 8

2 sh of free electives outside the major discipline are required 122-124

Recommended Electives - Spanish 1010 and TEC 2029

<p>Major Designators 2 Writing (W) _____ 1 Speaking (S) _____ *Com Prof _____ *A "C" minimum in COM 2101 satisfies Communication Proficiency.</p> <p>Other Designators 4 Writing (W) _____ (English 1000/1100 will count as 2 W) 4 Multi-cul (MC) _____ (His 1101/1102 will count as 2 MC) 2 Num Data (ND) _____ 2 Computer (C) _____ 1 Cross-dis (CD) _____</p>

NC Community College APPALACHIAN STATE UNIVERSITY CORE CURRICULUM
CHECKSHEET 2004-2005

Core Met _____

NAME _____ MAJOR Graphic Arts and Imaging
Technology

ENGLISH (6 s.h.) MATHEMATICS (4 s.h.)

_____ English 1000 (W) _____ Math 1010 (W,ND, C) _____ Math 1030 (ND, C)
_____ English 1100 (W) or _____ 1510(W) _____ Math 1020 (ND) _____ Math 1110 (ND)
_____ Math 1025 (ND) _____ Math 1120 (ND)

NATURAL SCIENCES (8 s.h. of a sequence) PHYSICAL ACTIVITY/WELLNESS (2 s.h.)

_____ Astronomy 1001 (ND) _____ 1002 (ND) _____ DAN 1400 (2) _____ 1410 (2) _____ 1420
(2) _____ 2400 (2)
_____ Biology 1101(ND) _____ 1102(ND) _____ DAN 2410 (2) _____ 2420 (2) _____ 3480 (2)
_____ Chemistry 1101 (ND),1110 _____ 1102 (ND),1120 _____ FCS 2202 (3)
_____ Geology 1080 (ND, CD) _____ 1090 (ND, CD) or _____ HP 1105 (2)
_____ Geology 1101 (ND) _____ 1102 (ND, CD) or _____ MSL 1101(1) _____ 1102 (1)
_____ Geology 1101 (ND) _____ 1103 (ND) or _____ PE Activities 1000-1050 (1), _____ 1057 (1),
_____ 1071-1082(1)
_____ Geology 1510 (W, ND) _____ 1511 (W, ND) PE majors only: PE 3008(2)
_____ Physics 1101 (ND) _____ 1102 (ND) or
_____ Physics 1103 (ND) _____ 1104 (ND) or
_____ Physics 1150 (ND) _____ 1151 (ND) **For Music Therapy Majors Only: Completion of BIO 1101**

**(ND) (4 hrs) and ES 2000 (5 hrs) will
fulfill the core curriculum science requirement**

General Science Sequence:

_____ G.S. Physics 1010 (ND) or _____ G.S. Astronomy 1010 (ND) and _____ G.S. Chemistry 1020 (ND)
followed by:
_____ G.S. Geology 1030 (ND) and _____ G.S. Biology 1040 (ND)

SOCIAL SCIENCES (History - 6 s.h.)

_____ History 1101 (MC) & _____ History 1102 (MC) or _____ History 1510 (W, MC) & _____ History
1515 (W, MC)

OTHER SOCIAL SCIENCES (6 s.h.)

Choose TWO courses from different areas. (*Approved on a semester by semester basis)

_____ Anthropology 1215 (MC), 1220, 2335 (MC), 2420 (MC)

_____ Appalachian Studies 2411 (W, MC, CD)

****ECO 2030 Economics 1010, 2030**

_____ Family and Consumer Sciences 2103 (C) (FCS 2103 or SOC 1110 to fulfill requirements, but not
both)

_____ General Honors 1515* (CD, W*, S*, MC*, ND*, C*), 2515* (CD, W*, S*, MC*, ND*, C*), 2520*
(CD, W*, S*, MC*, ND*, C*), 3515* (CD, W*, S*, MC*, ND*, C*)

_____ Geography 1010 or 1510, 1020 (MC) or 1515(MC), 1040 (MC); Planning 2410 (CD) or 2510

_____ Interdisciplinary Studies 1101*,1103*; 1102*, 1104*; 2201*-2206* (W*, S*, MC*, CD*)

Note: Priority enrollment given to Watauga Residential College students Interdisciplinary Studies 2411 (W,
MC, CD), 2421 (MC, CD)

_____ Political Science 1000 (MC), 1100, 1200, 1201 (S), 2120 (MC), 2130, 2240 (MC)

_____ Psychology 1200

_____ Sociology 1000, 1100, 1110, 2700, 2850 (W) (May take FCS 2103 or SOC 1110, but not both)

_____ Technology 2029 (W, MC, CD)

****ECO 2030 required only if Business Minor is pursued HUMANITIES (12 s.h.)**

Choose **FOUR** courses from at least three areas. One course must be a **LITERATURE** course and one course must be from the fine arts

(**ART, DANCE, MUSIC** or **THEATRE**). Courses underlined are approved for literature.

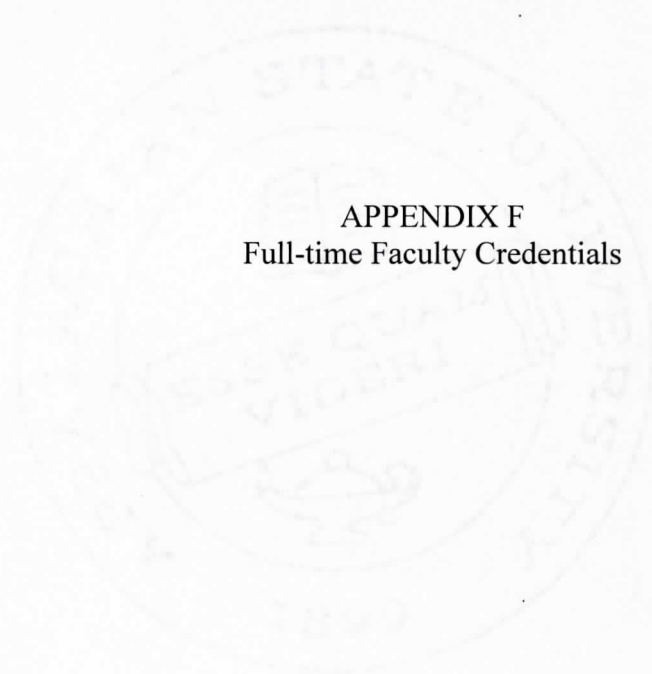
(*Approved on a semester by semester basis)

- Appalachian Studies 2016, 2410 (W, MC, CD)
 Art 2011, 2012 (MC, CD), 2013 (W, MC, CD), 2030 (MC), 2130 (W, MC), 3330
 Chinese 1040 (MC), 1050 (MC)
 Dance 2014 (MC), 3430 (W, MC)
 English 2010 (W), 2020 (W), 2030 (W, MC), 2040 (W, MC), 2100 (W), 2120 (W, MC), 2130 (W, MC) 2310 (W), 2320 (W), 2510 (W), 2515 (W)
 English 2170 (W) (counts as a separate area; does not fulfill literature)
 Foreign Language 2010 (MC)
 French 1040 (MC), 1050 (MC), 1060 (MC), 3030 (W,MC), 3040 (W,MC)
 General Honors 1515 * (CD, W*, S*, MC*, ND*, C*), 2515* (CD, W*, S*, MC*, ND*, C*), 2520* (CD, W*, S*, MC*, ND*, C*), 3515* (CD, W*, S*, MC*, ND*, C*)
 German 1040 (MC), 1050 (MC), 1060 (MC), 3015 (W, MC), 3025 (W, MC), 3050 (MC), 3055 (W, MC), 3550 (W, MC)
 Interdisciplinary Studies 1101*, 1103*; 1102*, 1104*; 2201*-2206* (W*, S*, MC*, CD*)
 Note: Priority enrollment given to Watauga Residential College students Interdisciplinary Studies 2410 (W, MC, CD), 2420 (MC, CD)
 Japanese 1040 (MC), 1050 (MC)
 Latin 1040 (MC), 1050 (MC), 3010 (MC), 3020 (MC)
 Music 2011 (MC), 2012 (MC, CD), 2013 (W, MC, CD), 2014, 2015, 2016, 2017, 2018 (MC), 2020
 Music majors only: 1611 (W, MC), 2611 (MC, CD), 2612 (W, MC, CD), 3611 (W, MC, CD)
 Philosophy 1000 (W), 1040 (W), 1100, 2000 (W), 2012 (MC, CD), 2013 (W, MC, CD), 2015 (W, MC, CD), 2200 (W, CD), 3600 (W)
 Religion 1020 (MC), 2010 (W, MC), 2012 (MC, CD), 2013 (W, MC, CD), 2020 (W, MC), 2025 (W, MC), 2026 (W, MC), 2030 (MC), 2040 (W, MC)
 Russian 1040 (MC), 1050 (MC)
 Spanish 1040 (MC), 1050 (MC), 1060 (MC), 3015 (W, MC), 3025 (W, MC), 3050 (W, MC), 3055 (W, MC)
 Theatre 2011, 2012 (MC, CD), 2013 (W, MC, CD), 2015 (MC,CD), 2610 (W, S), 2712 (W, MC), 3640 (S), 3730 (W, MC,CD), 3735 (W, MC,CD)

+Foreign Language Placement Exam Required before Enrollment

Passed Completed MAT 0010

APPENDIX F
Full-time Faculty Credentials



Appendix F: Full-time Faculty credentials

Robin Williams, Coordinator**Advising load**

GAIT majors with last name beginning with **S-Z**; approximately **25** students 05-06 school year

Service Load

- Flexographic Technical Association, Professional Member (International Organization)
- International Graphic Arts Education Association, Professional Member (International Conference)
- National Association of Industrial Technology, Professional Member
- NAIT Board of Accreditation- 3-year elected position (Nation Conference)

Class Assignment(s)

Flexographic Printing

Advanced Flexographic Printing Methods

Advanced Offset Printing Methods

Advanced Screen Process Printing

Color Reproduction

Student Honors Thesis

Technical Assistant

Substrates and Inks

Advanced Printing Methods

4-year Degree

BA, Graphic Arts and Imaging Technology

Appalachian State University

Graduate School

MA, Industrial Technology (Graphic Arts and Imaging Technology)

Appalachian State University

Doctoral Program

EdD, Technology Education

North Carolina State University

Applied Industrial Experience

Spring 1991-Fall 2005:Customer Service, Color Response Corporation of America, Charlotte, North Carolina (Student Internship that became full time employment)

John Craft, Professor**Advising load**

GAIT majors with last name beginning with **A-D**; approximately **20** students 05-06 school year

Service Load

- International Graphic Arts Educators Association (Former First Vice President)
- National Association of Industrial Technology (Former President of

- the Graphic Communications Division)
- National Association of Photoshop Professionals
- Graphic Arts Technical Foundation
- Printing Industries of the Carolinas
- Epsilon Pi Tau (Co-Advisor)
- Gamma Epsilon Tau (Advisor)
- Alpha Phi Omega (Co-Advisor)

Class Assignment(s)

Electronic Imaging

Advanced Electronic Imaging

4-year Degree

B.S.T. Appalachian State University - 1975

Major: Industrial Arts Education, Minor: Education

Graduate School

M.A.T. Appalachian State University - 1981

Major: Industrial Education, Minor: Adult and Community College Education

Doctoral Program

Ed.D. North Carolina State University - 1998

Major: Technology Education, Minor: Instructional Technology Curriculum and Instruction

Applied Industrial Experience

Delmar Printing – semester internship

Crowson-Stone, Columbia, SC – summer employment

Consultant to companies

Kevin R. Howell, Assistant Professor

Advising Load

GAIT majors with last name beginning with E-J; approximately 17 students 05-06 school year

Electronic Majors; Approximately 28 students 05-06 academic year

Service Load

Advisor/Member: Epsilon Pi Tau

Member: Information Technology Advisory Council

Class Assignment(s)

Web Design

3D Animation

Leadership

Digital Printing

Computer Networking

Computer Uses for Industrial Research

4-year Degree

Bachelor of Arts – Anthropology

Appalachian State University, Boone, NC

Graduate School

Master of Arts – Industrial Technology

Appalachian State University, Boone, NC

Doctoral Program

Doctor of Education - Leadership and Organizations, Peabody College, Vanderbilt University, Nashville, TN

Applied Industrial Experience

Milos Krsmanovic, Assistant Professor

Advising load

GAIT majors with last name beginning with **K-R**; approximately **26** students 05-06 school year

Service Load

Membership with NAIT, IGAEA, ITEA, EPT, GATF/PIA, CIP4.

Class Assignment(s)

Graphic Communication I

Substrates and Inks

Graphic Communications II

Print Production, Analysis and Control

4-year Degree

Career and Technology Education

Bowling Green State University, Bowling Green, OH

Graduate School

M.Ed. Bowling Green State University, 2001

Career & Technology Education

Doctoral Program

Ph.D. Indiana State University (ABD)

Technology Management

Applied Industrial Experience

Over five years of full and part-time employment.

Peter Krusa, Distinguished Professor

Advising load

NA

Service Load

Liaison with industry professionals of the Printing Industry of the Carolinas

Class Assignment(s)

Current Trends in Graphic Communications

4-year Degree

Bachelor of Arts

Sociology; minor in Psychology

St. Olaf College in Northfield, Minn.,

Graduate School

Coursework toward Master of Science, Rochester Institute of Technology in Rochester, N.Y.

Doctoral Program

NA

Applied Industrial Experience

Over 30 years of industry experience

Tom Reeves, *Practitioner in Residence***Advising load**

NA

Service Load

Faculty advisor: SkillsUSA, Graphic Communications

Faculty advisor: Gamma Epsilon Tau (GET), Nu Chapter

Faculty advisor: Graphic Arts Student Association (GASA)

Member: National Association of Industrial Technology (NAIT)

Member: The Printing Industry of the Carolinas (PICA)

Member: The International Cooperation for the Integration of Processes in
Prepress, Press and Postpress Organization (CIP4)

Member: The International Association of Printing House Craftsmen (IAPHC)

Class Assignment(s)

Laboratory Instruction for: Graphic Communication I & II, Advance Offset Printing,
Advance Screen Printing, Digital Printing, and Flexographic Printing.

4-year Degree

Appalachian State University, BS, Industrial Arts,

Graphic Arts and Drafting concentration, Teaching Degree, 1976.

Graduate School

MA, Industrial Technology

Appalachian State University, Boone, NC

Doctoral Program

NA

Applied Industrial Experience

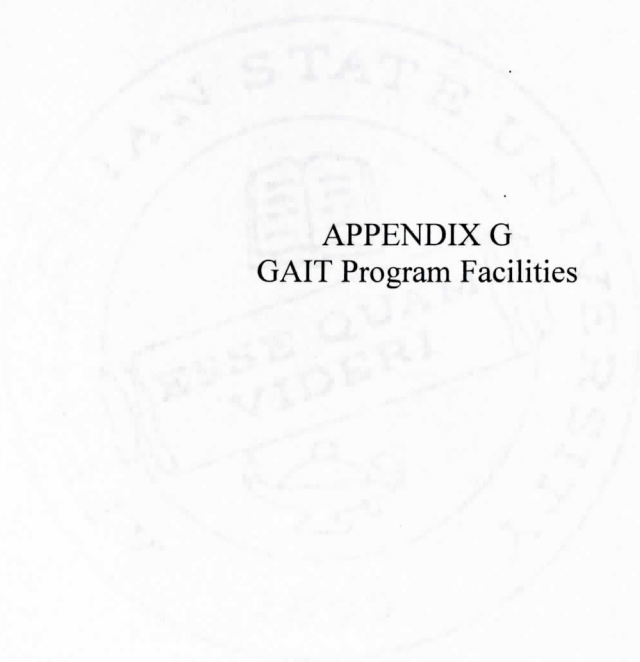
Architectural Graphics, J.J. Rose, AIA, Reprographics Project Manager

Commercial Printing, Photographic Press, Manager

Public School, Chapel Hill High School, Graphic Arts Teacher

Community College, Southeastern Community College, Printing & AudioVisual
Coordinator

APPENDIX G
GAIT Program Facilities



Appendix G: GAIT Program Facilities

Faculty offices

- Each faculty member has a private office to allow for course preparation, confidential advising, research space, resource material storage, and access to communication devices such as phone and computer.

Classrooms

- Lecture space
 - The GAIT program emphasizes an experiential learning environment. Very few courses function with lecture only. For this reason, the program currently has one classroom strictly used for lecture. This classroom meets the need of the program.
 - There are two computer labs used for lecture and laboratory purposes; they will be listed under laboratories.
- Multimedia equipment
 - The lecture room and one computer laboratory are equipped with multi-media projection devices and instructor computer used for lecture and demonstration.
- Desks
 - Each classroom and lab is equipped with desks and seating capacity appropriate for course needs. Each student is provided with an individual computer available for use during lab-time (students are not expected or required to share a computer)

Labs [please refer to the equipment list in Appendix H for identifying lab equipment]

- Prepress area
- Offset printing
- Digital printing
- Flexography printing
- Animation
- Screen printing

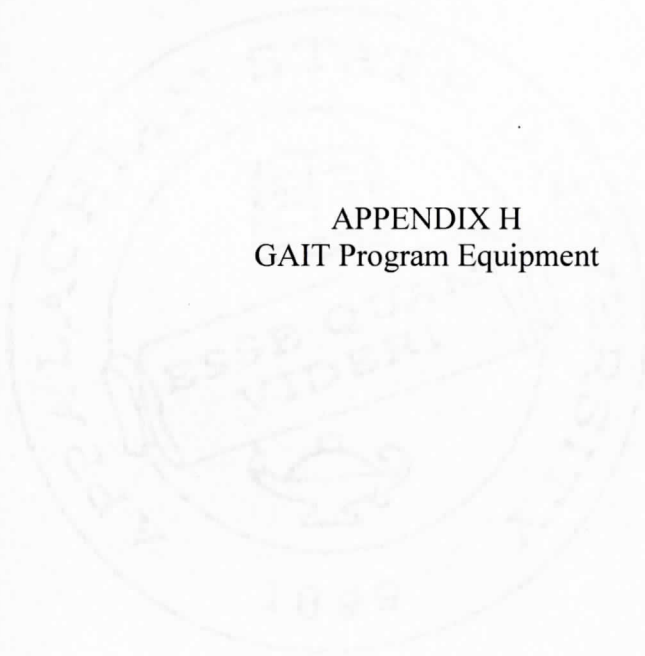
“GAIT Library”

- The GAIT library is housed in the GAIT program and is accessible to all GAIT majors and faculty.

Flexography Museum

- The Ron and Catherine Harper Flexography Museum is the only museum of its kind in an educational setting throughout the state of North Carolina. This museum is a significant educational tool to GAIT students regarding the history and methodology of Flexographic printing.

APPENDIX H
GAIT Program Equipment



Appendix H: GAIT Program Equipment

Prepress

Intro Computer Lab

- 13 Apple Power PC 750
imac, Mac OS 10.4.3
- 4 Apple Power PC G4
imac, Mac OS 10.4.3

Electronic Imaging Lab

- 22 Apple Power Mac G4
17" LCD display
Mac OS 10.4.3

Advance Print Lab

- 7 Apple Power PC G4
imac, 17" LCD display
Mac OS 10.4.3
- 4 Dell, Pentium 4
17" LCD display
Microsoft Windows XP

Image Assembly

- 1 Agfa SelectSet 7000
PostScript Laser Image Recorder
- 1 Glunz & Jensen, Multiline 28 Film Processor
- 1 NuArc, FT26V Plate Exposure Unit
- 1 Hoechst, 615 Subtractive Plate Processor
- 1 NELA Ternes, Register Punch
Komori Sprint-26
- 1 Heidelberg, Register Punch
QM-46

Press – Offset Lithographic

- 2 AB Dick Offset Lithographic Duplicator
Model 9805
- 1 Heidelberg Offset Lithographic Press
Printmaster QM-46
- 1 Komori Offset Lithographic Press
Sprint 26

Press – Flexographic

- 1 Comco Cadet, In-Line, 7” Narrow Web
5 Color with Die Station Laminating
- 1 Mark Andy, Central Impression, 7” Narrow Web
3 Color with Die Station
Model 830

Plate Processors - Flexographic

- 1 Anderson & Vreeland, 12” X 18” Photopolymer Plate Processor
Orbital X
- 1 Anderson & Vreeland, A-3 Photopolymer Plate Processor
Table Top Unit

Press – Digital

- 1 Agfa Chromapress
CP32i, Xeikon print engine

Printers – Color

- 1 Gerber Edge 2 & Envision Plotter
- 1 Fuji Fujifilm Pictro Proof
- 1 Epson Stylus Photo R1800

Scanners

- 2 Linotype-Hell, Saphir
Flat Bed Color Image Scanner

- 1 Howtek, Scanmaster 4500
Drum Scanner

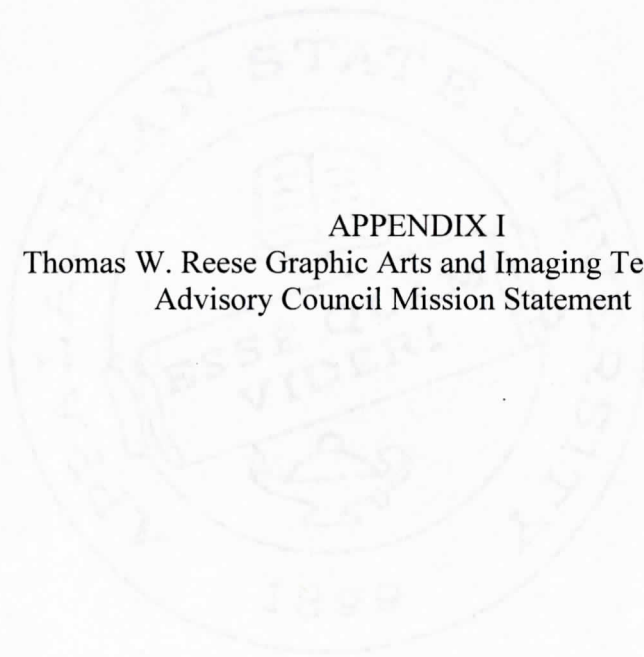
Finishing

- 1 Polar Mohr, Polar 90 Guillotine Paper Cutter
Microcut Cutter Automation System
- 1 MBO Buckle Folder, T-49
- 1 Challenge Paper Drill, JF
- 1 GBC Coil Punch & Inserter, MP2500ix
- 1 GBC Film Laminator, Ultima 65
- 1 Fastbind Perfect Binder & Hard Cover Book Maker

Screen Printing

- 1 Lawson Manual Screen Printing Textile Press
Four Station – Four Color
- 1 Lawson Mustang Flat Bed Screen Press

APPENDIX I
Thomas W. Reese Graphic Arts and Imaging Technology
Advisory Council Mission Statement



Appendix I: Thomas W. Reese Graphic Arts and Imaging Technology Advisory Council
Mission Statement

**ADVISORY BOARD MISSION STATEMENT
FOR
THE THOMAS W. REESE
GRAPHIC ARTS & IMAGING TECHNOLOGY PROGRAM**

The Advisory Board serves in several important guidance functions for the GAIT program and, since its inception, has been a key element in the development of the GAIT program. The board is composed of successful executives from the printing, publishing and packaging industries; consisting of representatives from:

- A cross section of printing firms in the commercial and/or packaging market segments;
- Allied industry vendor firms (major equipment, accessories, supplies); and
- Industry association firms.

This group of experienced individuals with widely varied backgrounds provides the GAIT program with:

- A regional, up-to-date indication of Market Trends, both economic and technological;
- A review, critique, and recommendations function for the GAIT Curriculum;
- Internships in their own firms and assistance in locating additional internships opportunities;
- "Real World" experiences for the students by becoming mentors, guest speakers, and also;
- Advice, direction, and support in GAIT Development efforts.

Meetings of the board are held 2-3 times per year including: Fall meeting, Spring meeting; and others as requested.

APPENDIX J
Personal Contacts and Affiliations

Appendix J: Personal Contacts and Affiliations

Sidney Connor, Department Chairperson

Department of Technology

Appalachian State University, Boone NC

Rick Coscarelli, Executive Director

National Association of Industrial Technology, Ann Arbor, MI

Jeannie Davis, Administrative Services Assistant V

Department of Technology

Appalachian State University, Boone NC

Jon Duff, Professor

Department of Technology Management

Arizona State University, Mesa, AZ

Marie Hoepfl, Graduate Program Coordinator

Department of Technology

Appalachian State University, Boone NC

Sharon Kincaid, Office Assistant IV

Department of Technology

Appalachian State University, Boone NC

Peter Krusa, Distinguished Professor

Department of Technology

Appalachian State University, Boone NC

Heather Langdon, Senior Research Associate

Office of Institutional Research, Assessment, and Planning

Appalachian State University, Boone, NC

Rob Massey, Academic Advisor

General Studies

Appalachian State University, Boone, NC

Eleanor Nault, Director

Office of Institutional Effectiveness and Assessment

Clemson University, Clemson, SC

Tom Reeves, Practitioner in Residence

Department of Technology

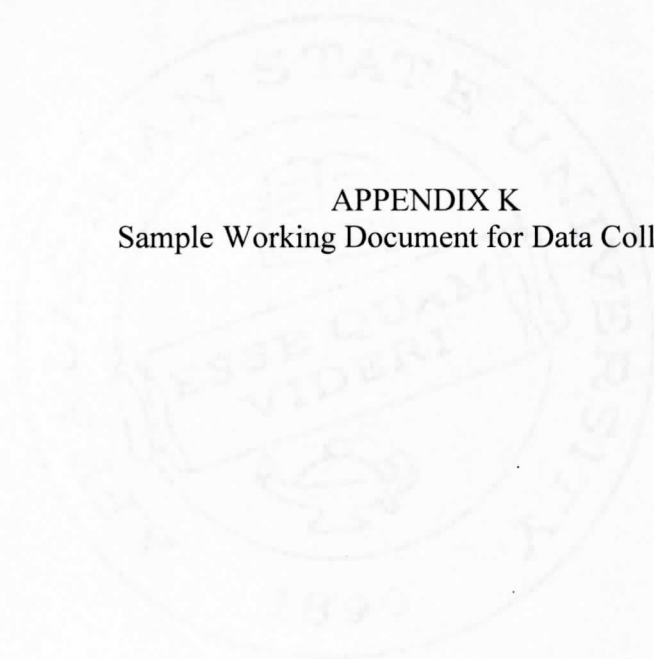
Appalachian State University, Boone NC

Peter Wachs, Associate Director
Office of Institutional Research, Assessment, and Planning
Appalachian State University, Boone, NC

Robin Williams, Program Coordinator
Thomas W. Reese Graphic Arts and Imaging Technology Program,
Appalachian State University, Boone, NC



APPENDIX K
Sample Working Document for Data Collection



Appendix K: Sample Working Document for Data Collection

5.1 Program Mission and Goals:

The program title, definition and mission shall be compatible with the NAIT definition of Industrial Technology. The program shall lead to a degree at the associate, bachelor s or master s level. NAIT approved definitions for degree programs are as follows:

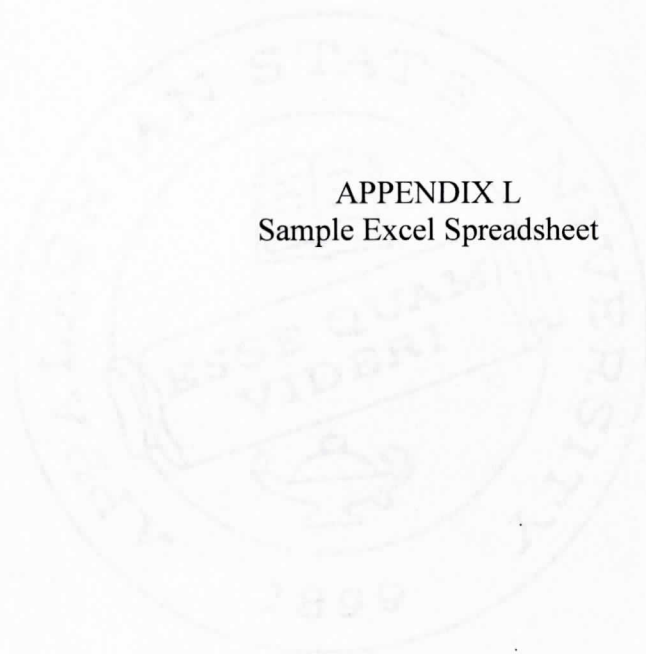
b. Baccalaureate Degree: Programs that prepare individuals for positions that involve the management of complex technological systems

General goals shall be established for each program that provide a framework for the development of specific measurable competencies.

Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized by the appropriate regional accrediting agency are considered for accreditation.

Concepts	what is needed	where to find it
Program title (GAIT)	NAITs current definition:	NAIT definitions from Handbook and on-line resources http://nait.org/
Definition (GAIT)		personal communication – Robin Williams
Mission (GAIT)		
Leads to BA degree according to NAIT's degree definition	Baccalaureate Degree: Programs that prepare individuals for positions that involve the management of complex technological systems	Undergraduate bulletin GAIT web page Checksheets
General goals for GAIT	A list of goals and their relevancy to GAIT and NAIT's definition	GAIT mission statement personal communication – Robin Williams
framework for the development of specific measurable competencies	"when the student walks across the stage at graduation, what should they know?" not "leadership", etc.	(there are none, so there was no framework for their development)
authorized under applicable state law	Is GAIT legally authorized to provide higher education? By whom? How? In what way?	References to determine what body approves courses at App State [a starting point] http://www.northcarolina.edu/content.php/system/index.htm http://www.irap.appstate.edu/
appropriate regional accrediting agency	Proof that GAIT is included in the University recognition by SACS... Follow-up on date and such for reaffirmation by SACS http://www.selfstudy.appstate.edu/report/ Because SACS assessment process was not ok when the site visit occurred "2 and 3. Better documenting institutional effectiveness activities by tying more closely the existing planning and reporting processes, both for academic programs and administrative functions;" <ul style="list-style-type: none"> • Where GAIT program stands with this? • What are they doing to address this? • How has SACS addressed the Recommendation (if they did at all)? 	

APPENDIX L
Sample Excel Spreadsheet



Appendix L: Sample Excel Spreadsheet

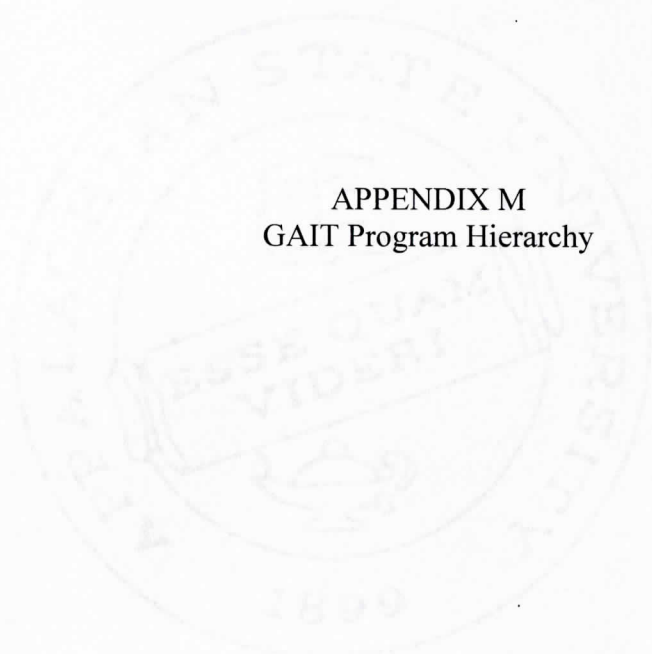
standard 5.8

Does the Syllabus appropriately describe:

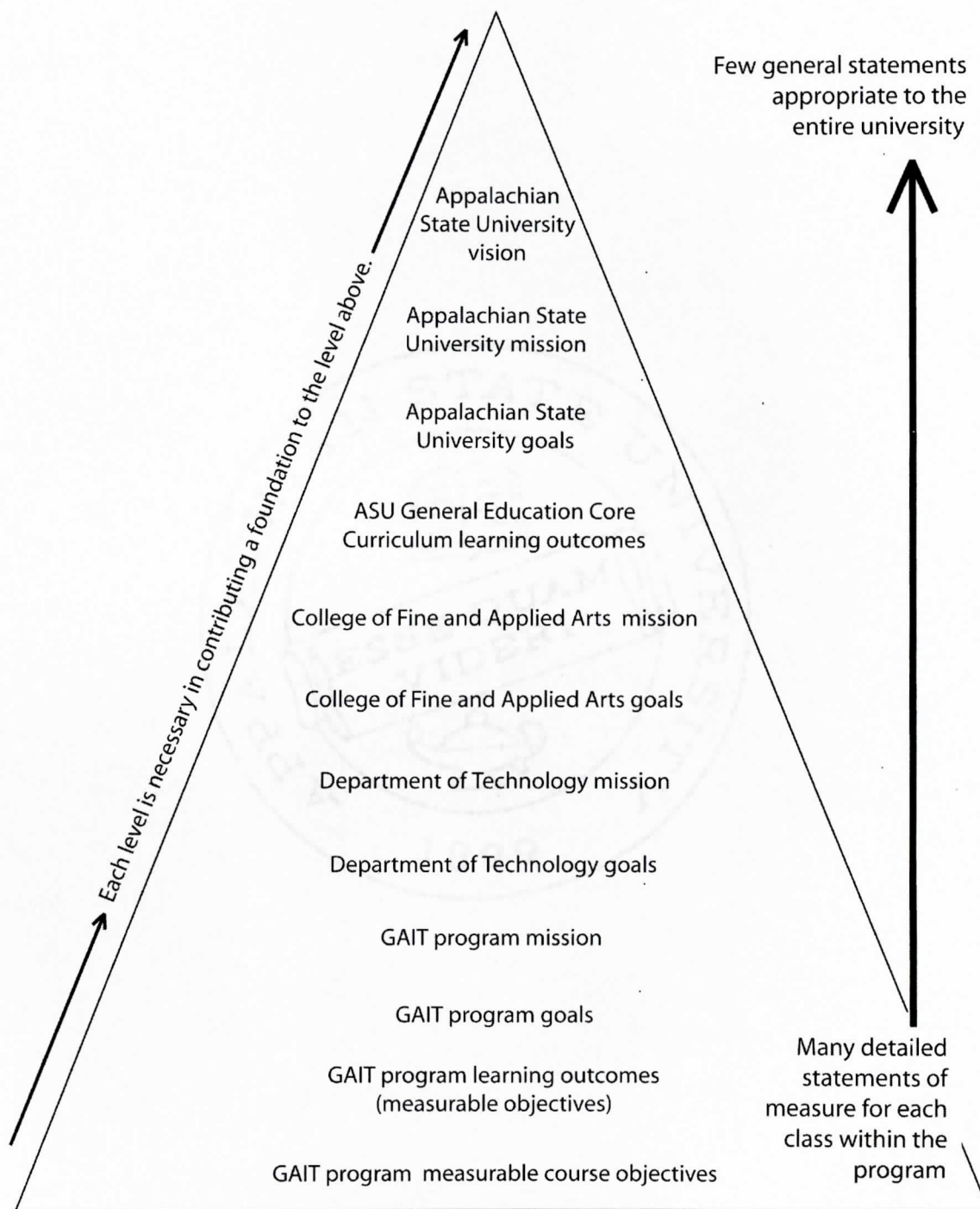
overview of what material will be covered in the course *what the student should be able to know, think, or do by the end of the course* *texts, web, journals, other resources* *papers, lab, projects, homework* *tests, quizzes*

course	courses objectives	content	measurable competencies	references utilized	student activities	competency measurement criteria
1012 Graphic Communications I	objectives	course description		required text	weekly lecture/lab schedule	
2102 Electronic Prepress	objectives	course description		required text	weekly class schedule	
2112 Substrates and Inks	objectives	course description		required text	weekly class schedule	
3002 Introduction to Ferlxo	course objectives	course description	printing press specific objectives (but the measure used is not listed for each)	required text	lab schedule and semester projects	
3012 Graphic Comm II	objectives	course description		required text	schedule	
3551 Technical Assistant						
3622 Graphic Comm Seminar		course description			course outline	
3702 Electronic Imaging	course objectives	course description		text		
3772 Print Production, Analysis, and Control	objectives	course description		required text	weekly class schedule	
4512 Advanced Electronic Imaging/Cross Media	course objectives	course description		text		
4588 Digital Printing	course objectives	course description			lab activities and student projects (although a limited list)	
4566 Advanced Flexographic		course description	course objectives			measurement and evaluation
4591 Advanced Offset Printing Methods		course description	course objectives			measurement and evaluation
4622 Current Trends in Graphic Communications						

APPENDIX M
GAIT Program Hierarchy

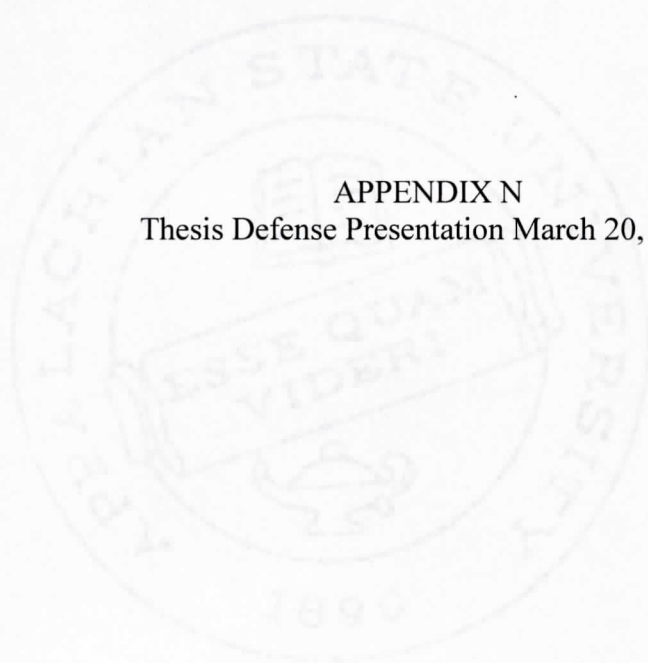


Appendix M: GAIT Program Hierarchy



(adapted from Jon Duff, personal communication, Jan 29, 2006)

APPENDIX N
Thesis Defense Presentation March 20, 2006



Appendix N: Thesis Defense Presentation March 20, 2006

National Association of Industrial Technology 2004 Beta Standards:
An Evaluative Study of the
Thomas W. Reese
Graphic Arts and Imaging Technology Program

Eleanor Walker Massey
 March 20, 2006

In partial fulfillment of the requirements for the degree of
 MASTER OF ARTS

About the...

Researcher
 Literature
 Research
 Results
 Recommendations

Personal Background

- B.S. Psychology, Lander University, 1996
 (independent research project, university research award)
- Employment:
 - Neuropsychometric Assessment of brain injury clients (2 yrs)
 - 4-H (wilderness program for at-risk youth) formal presentations and written reports, grant writing, and fund raising (5 years)
- Why GAIT?
 - Foster creativity through Graphic Arts
 - Improve leadership skills
 - Move away from the helping profession
- Why a Thesis?
 - To build research history, improve formal communication skills, and explore a topic thoroughly
- Why this topic?
 - Began as Graduate Assistant task, assessment is useful in any career

Review of literature: Accreditation

Accreditation: arose from lack of continuity and accountability for quality of education, a non-governmental peer evaluation


Benefits
 as a student: program maintains continuous review, improves quality
 faculty member: ongoing evaluation for program and faculty development
 member of the general public: "truth in advertising"

Components
 site visit defense in front of the Accreditation Board
 self-assessment dues (1st time and annual)

Self-Assessment

Opportunity for an institution to compare such areas as:
 curriculum,
 instructor qualifications, and
 facility

against the guidelines established by the accrediting body, either for the purpose of applying for accreditation, information gathering, or program improvement.



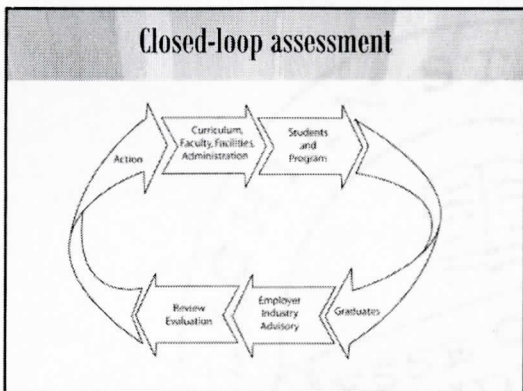
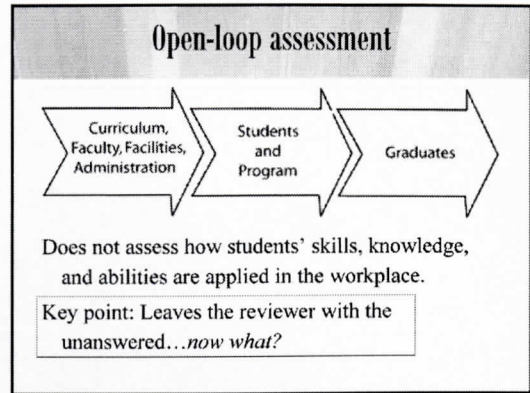
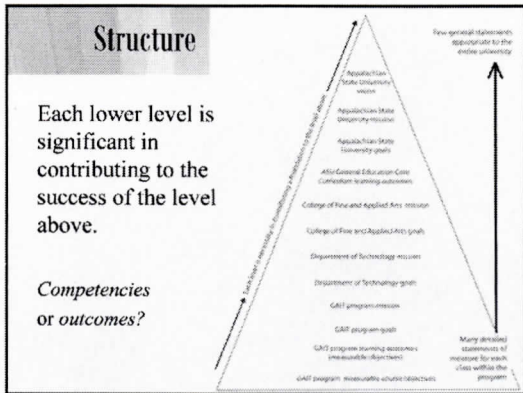
STANLEY WAS DEEPLY DISAPPOINTED WHEN, HIGH IN THE TIBETAN MOUNTAINS, HE FINALLY FOUND HIS TRUE SELF.

Outcomes

Provides consistency in assessment through a common thread of measurement known as *learning outcomes*.

What will the student be able to know think or do as a result of completing this program?

Any question asked or measure taken regarding program operation should provide evidence applicable to at least one outcome (usually multiple).



- ### Why move to Outcomes?
- **tuition increases:** those outside the educational setting were disappointed in higher ed...why should we fund you
 - **internal need for change:** general education requirements and programs (learning communities, designator courses...)
 - increases **marketability** to faculty, students, lenders, and benefactors
 - data-driven focus of public record for **public reports**

The Problem

GAIT administrators **can only assume** that the courses offered, degree guidelines, facility, and faculty qualifications are current and productive and are **providing a high quality education** to undergraduates in the field of graphic communications.

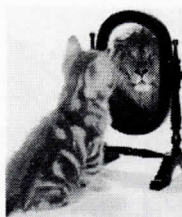
A self-study of this magnitude provides an opportunity for the administration and faculty to explore areas of success as well as those in need of improvement within a program.

- ### Research Questions
- 1) Does ASU's GAIT program (or the Department of Technology where necessary) currently fall in compliance with all 16 NAIT standards and
 - 2) If, at any level, these standards are not being met, what changes are necessary to meet these standards?

Methodology

This is an evaluative self-study using ASU's GAIT program as the case under study.

Key point: Support material and all data collection is **qualitative** collected from text or personal communication.



Methodology - instrument

NAIT's Accreditation Board approved at 2004 NAIT national conference.

The information requested in these standards complies with the mission and goals set forth by NAIT and further assures quality education for industrial technology programs

Methodology - sample

GAIT Program operation for 2005-2006 academic year.

- mission
- goals
- definition
- admission and retention guidelines
- faculty credentials
- curriculum
- facilities and equipment
- alumni reports, and
- advisory council procedures

Methodology - data collection

Evidence shall be presented showing the adequacy of instruction including: (a) motivation and counseling of students; (b) scheduling of instruction; (c) quality of instruction; (d) observance of safety standards; (e) availability of resource materials; (f) teaching and measurement of competencies (specific measurable competencies shall be identified for each course along with the assessment measures used to determine student mastery of the competencies); (g) supervision of instruction; and (h) placement services available to graduates.

A course syllabi shall be available for each course that appropriately describes courses objectives, content, measurable competencies, references utilized, student activities and competency measurement criteria.

Key points	What is needed?	Where to find information?
motivation and counseling of students:	What is needed? "Some on non-academic advising?" Methods of motivation in academics? Documentation of how faculty counsel students: • advising loads • office hours available to students • were faculty available to assist students?	Lib review, what is motivation for students Personal communication (Dr. Williams and Dr. Cooney) Review of IATA Results from course evaluations
scheduling of instruction	• How are courses selected (what needs to be taught any given semester)? • How are they scheduled (when, by whom)? • What is considered when scheduling courses? • Gen ed and Tech?	Personal communication Academic Policies and Procedures
quality of instruction		
observance of safety		

Resources

- ASU and Department of Technology web page
- ASU Undergraduate Bulletin
- input from the GAIT faculty and Department of Technology Chairperson
- assistance from the ASU Office of Institutional Research, Assessment, and Planning (IRAP)
- university Admissions, Registrar, and General Studies offices
- NAIT representatives and members

Findings

- 16 standards with many components each
- Each rating as:
 - Compliance
 - Partial-compliance
 - Non-compliance
- Significant findings
 - Program assets
 - Program concerns

Findings - assets

- Valuable systems and resources are in place
- Desire to be the best and recognized as such
- Dedicated funding sources
- Unmatched external supports

Findings - concerns

- Assessment plan
- Learning Outcomes
- Written documentation

Assessment Plan

Who will be assessed? ...and how often?

Using what measures? ...using what instrument(s)??

Against which outcomes?

Who will administer the assessment?

How will results be collected? And by whom?

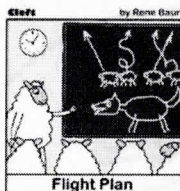
Who will interpret the data?

Who will write the report?

Where will the report be available? archived?

Who will evaluate the report?

How will results effect the program operation?



Key points.

written, publicized, shared, and cyclical

Generate program outcomes

- Student shall be able to demonstrate theoretical elements of design for diverse printing methods.
- Student shall be able to employ a working knowledge appropriate uses of computer programming and software needs in graphic communications.
- Student shall be able to apply and explain printing operations with varied methods of current print technologies related to material, product specifications, and processing considering environmental and economic impacts.
- Student shall demonstrate highly developed communication skills underpinned with ethics and professional behavior.
- Students shall demonstrate proficiency in math, physical science, and design with technical skills to assess and propose solutions to problems associated with technical and manufacturing production.

Key Point: What should the student be able to know think or do as a result of completing this program?

Written Documentation

A component of the Assessment process

reports of admission records, employer surveys, alumni reports, etc...

In addition to assessment (a program "diary")

to record the process of major program change (ie. implementing a center, modifying the curriculum, adding course or specialized content) advisory committee procedures

Key point: document program changes, specifically those that result out of assessment using the program outcomes.

Recommendations to NAIT

- Consistency of terms: "Outcomes model" without *outcomes* but *measurable competencies*
- Define terms
- Explanation of the standard

Summary

dynamic teaching and abundant hands-on opportunities

In an effort to provide substantial evidence, it is imperative that the program generate

- program specific learning outcomes (or measurable objectives),
- develop an assessment plan, and
- record assessment outcomes

Proof that:

- Graduates are competitive
- receive jobs in graphic communications
- employers are satisfied with the quality of graduates

The Process

- Thesis committee members
- Remember goal: comparison not compliance
- What to do without outcomes
- Not as difficult to acquire information as expected
- Skills can be applicable to grant writing and assessment in any arena

In conclusion

- Background in research (qualitative)
- Understanding of accreditation and self-assessment
- The role of program outcomes
- GAIT is in a position to move toward accreditation
- Recommendations to GAIT for compliance
- Recommendations to NAIT for instrument improvements
- Contribution to the program, department, university, NAIT and myself

Thank You.

I am happy to take any questions
you may have for me.

Author's Biography

History:

Eleanor Walker (Fairey) Massey was born in West Germany in 1972 to Philip Washington Fairey, III (of Columbia, SC) and Eleanor Walker (Dion) Fairey (of Summerville, SC). Mrs. Massey was married to Robert Austin Massey (of Rockledge, FL), May 25, 1996 in Greenwood, South Carolina. She is the mother of two children, Nicholas (5 years old) and Robin (2 years old).

Education:

M.A. Industrial Technology, Appalachian State University, Boone, NC , May 2006
B.S. Psychology, Lander University, Greenwood, SC, May 1996.

Employment:

Upon undergraduate graduation, she began work as a Neuropsychomatrist at a brain injury rehabilitation hospital in Greenville, SC. Her husband's career moved them to Boone, NC in the Fall of 1998, where she took a job at an area chapter of 4-H. Through the course of this employment Mrs. Massey gained skills in grant writing, volunteer and staff management, fundraising, and marketing. In addition, she acquired a passion for outdoor sports such as rock climbing, caving, and backpacking. Throughout graduate school, she has maintained a graduate assistantship in the Department of Technology and part time employment as Graphic Artist at the ASU Energy Center.