PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

<table>
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<tr>
<th>Department</th>
<th>College/School</th>
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<td>Business Systems</td>
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<td>Technologies</td>
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<tr>
<th>Prepared by</th>
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<tr>
<td>Keith Swarner</td>
<td>455-2820</td>
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<tr>
<th>Email Contact</th>
<th>Faculty Contact</th>
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<tr>
<td><a href="mailto:keith.swarner@uaf.edu">keith.swarner@uaf.edu</a></td>
<td><a href="mailto:keith.swarner@uaf.edu">keith.swarner@uaf.edu</a>/ 455-2820</td>
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Faculty Contact keith.swarner@uaf.edu/455-2820

See [http://www.uaf.edu/uafgov/faculty/cd](http://www.uaf.edu/uafgov/faculty/cd) for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

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<td>Information Technology Specialist</td>
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A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

This Format 5 Program/Degree Requirement Change form provides the details for changes in how the IT Specialist certificate and A.A.S. degree program requirements are to be implemented.

One of the primary changes reflected within this proposal is the use of a new course designator—Computer and Information Technology Systems (CITS)—and the movement of our technical courses geared towards implementing, supporting, and troubleshooting computer and information technology systems into this new designator. Our application oriented classes will continue to use the Computer Information and Office Systems (CIOS) designator. We have already been in contact with Melissa McGinty in the Registrar’s office and received approval to use the CITS designator and move our technical courses into this new designator. We have also been in contact with Jayne Harvie in the Governance Office and been advised to submit this Format 5 form to reflect these changes—see Attachment 1.

The second change proposed through this Format 5 form is to offer the following three concentrations at the associate level of the IT Specialist Program:

Concentration 1: Computer Technology Support. This concentration maintains a consistency with the current implementation of the ITS A.A.S. degree with the following two exceptions: a) application oriented courses have been removed from counting towards the 15-credit competency area (requirement 4 of the current A.A.S. requirements); b) an introductory programming course will now be required for all degree students.

Concentration 2: Network and System Administration. Students completing this concentration will complete two sequences of courses. One focused on network infrastructure; and a second focused on system administration.

Concentration 3: Web Development and Administration. Students completing this concentration will complete two sequences of courses. One focused on Web design and development; and a second focused on system administration.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

<table>
<thead>
<tr>
<th>Information Technology Specialist</th>
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<tr>
<td>College of Rural and Community Development</td>
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</table>
Certificate; A.A.S. Degree

Minimum Requirements for Certificate: 32 – 33 credits; for A.A.S. Degree: 60 credits

The certificate program trains students in essential skills required to effectively use and troubleshoot computer systems in educational, governmental and corporate settings. The certificate program is also designed to enable students to continue their education in the Information Technology Specialist A.A.S. or the Applied Business A.A.S. degree program.

The A.A.S. degree program builds on the certificate program through additional general education and skill development in information technology services. Students completing the A.A.S. degree are qualified for more advanced positions such as the state of Alaska’s microcomputer/network specialist I and II.

As computer complexity increases, more and more employers are looking for workers with specific training in computer technology and support skills. The state of Alaska’s microcomputer/network technician I and II are examples of such positions. Students not interested in employment opportunities may enroll in these programs to improve their computer skills.

Minimum computer knowledge is required for admission to either program. An individualized program of courses, projects, readings, practica and other activities is designed with the help of a faculty mentor based on the student’s background and skill level. Students must achieve competency in applications, networking, troubleshooting, hardware and software configuration, and human relations and support. This degree program is delivered collaboratively within the UA system.

Certificate Program

1. Complete the general university requirements (page 86).
2. Complete the following certificate requirements:
   - ENGL F111X—Introduction to Academic Writing (3)
   - or ABUS F170—Business English (3)
   - or approved applied written communication course........................................................... 3
   - ABUS F155—Business Math (2)
   - or approved math course at the 100-level or above (3) ...................................................... 3
   - ABUS F154—Human Relations
   - or approved human relations course................................................................................... 3
3. Complete the following core courses*:
   - CIOS F128—Using and Configuring PC Operating Systems
   - or CIOS F110—Microcomputer Operating Systems**...................................................... 3
   - CIOS F130—Microcomputer Word Processing ................................................................. 3
   - CIOS F135—Microcomputer Spreadsheets ................................................................. 3
   - CIOS F146—Using Internet Tools and Technologies (3)
   - or CIOS F246—Implementing Internet Tools and Technologies........................................ 3
4. Complete 9 credits from the following (or demonstrate competency)*:
   - CIOS F105—Computer Software Applications................................................................. 3
   - CIOS F110—Microcomputer Operating Systems................................................................. 3
   - CIOS F133—Microcomputer Presentation Software.............................................................. 3
   - CIOS F210—Hardware and Software Configuration and Troubleshooting............................ 3
   - CIOS F233—Desktop Publishing............................................................................................ 3
   - CIOS F240—Microcomputer Databases................................................................................... 3
   - CIOS F246—Implementing Internet Tools and Technologies................................................. 3
   - CIOS F251—Integrated Software......................................................................................... 3
   - CIOS F255—Microcomputer Graphics.................................................................................... 3
6. Pass a certification review of the following skill areas:
   - Application Skills
   - Operating System Skills
   - Hardware Skills
   - Networking Skills
   - Troubleshooting Skills

7. Minimum credits required

### Major — A.A.S. Degree

1. Complete the general university requirements (page 86).
2. Complete the A.A.S. degree requirements. (See page 90. As part of the human relations requirement complete ABUS F154 or approved human relations course.)
3. Complete the following core courses:
   - CIOS F110 — Microcomputer Operating Systems** (3)
   - CIOS F210 — Hardware and Software Configuration and Troubleshooting*** (3)
   - CIOS F211 — Computer Technical Support*** (3)
   - CIOS F220 — Introduction to Network Support and Administration(3)
   - CIOS F230 — Introduction to Networking and LAN Infrastructure*** (4)
   - CIOS F231 — Advanced Networking and Communications (3)
   - CIOS F276 — Independent Project***
   - CIOS F282 — Cooperative Work Experience***

4. Complete 15 credits from the following degree (major) requirements (or demonstrate competency):
   - CIOS F105 — Computer Software Applications**** (3)
   - CIOS F130 — Microcomputer Word Processing (3)
   - CIOS F133 — Microcomputer Presentation Software (3)
   - CIOS F135 — Microcomputer Spreadsheets (3)
   - CIOS F140 — Using Internet Tools and Technologies (3)
   - CIOS F212 — Advanced Microcomputer Operating Systems (3)
   - CIOS F214 — IT Troubleshooting Skills (3)
   - CIOS F215 — Information Technology Certification I (3)
   - CIOS F216 — Information Technology Certification II (3)
   - CIOS F217 — Information Technology Certification III (3)
   - CIOS F218 — Information Technology Certification IV (3)
   - CIOS F233 — Desktop Publishing (3)
   - CIOS F234 — Advanced Desktop Publishing (3)
   - CIOS F240 — Microcomputer Databases (3)
   - CIOS F242 — Advanced Databases (3)
   - CIOS F245 — Networking and LAN Infrastructure Basics (4)
   - CIOS F246 — Implementing Internet Tools and Technologies (3)
   - CIOS F247 — Advanced Networking and Communications (3)
   - CIOS F249 — Routers and Routing Basics (4)
   - CIOS F250 — Integrated Software (3)
   - CIOS F255 — Microcomputer Graphics (3)
   - CIOS F256 — Internet Authoring and Design (3)
   - CIOS F257 — Digital Video (3)
   - CIOS F258 — Digital Photography (3)
   - CIOS F270 — Microcomputer Programming (3)
   - CIOS F271 — Web Databases and Programming (3)
   - CIOS F275 — Information Technology: Special Topics **** (3)

5. Complete CIOS electives* (9)

---

** or *** credits vary based on program requirements.
**** credits vary based on university requirements.
6. Complete general electives (may be CIOS courses) ................................................................. 6

7. Pass a certification review of the following skill areas:
   - Application Skills
   - Operating Systems Skills
   - Hardware Skills
   - Networking Skills
   - Troubleshooting Skills
   - Independent Thinking Skills
   - Human Relations and Support Skills
   - Professional Practices
   - Project Management and Implementation

8. Minimum credits required ................................................................. 60
   * Student must earn a C grade or better in each course.
   ** May be satisfied through credit by exam or prior learning.
   *** May not be satisfied through credit by exam or prior learning under any circumstances and constitutes a culminating experience for the course sequence.
   **** May be repeated for different topics.

Note: Upon admission to the certificate or degree program, each student will be assigned a mentor/committee chairperson who will be responsible for determining the student’s current level of competency in the various skill areas; assisting the student in determining the courses/experiences necessary for gaining competency in the deficient skill areas; setting up the student’s committee to consist of the mentor and at least one other individual who may be a UA faculty member, an adjunct faculty member, or an expert in the student’s community; arranging for practicum experiences in the student’s community; and organizing the committee’s final assessment of the student’s work and recommending award of the certificate or degree. Note: A 9 credit core sequence, required of all students no matter what their level of expertise, will be assessed by a committee of permanent and adjunct faculty for the final granting of the certificate or degree.

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:
(Underline new wording strike through old wording and use complete catalog format )

Information Technology Specialist
College of Rural and Community Development
Bristol Bay Campus 907-842-5109
Chukchi Campus 907-442-3400
Interior-Aleutians Campus 907-474-5439
Kuskokwim Campus 907-543-4500
Northwest Campus 907-443-2201
Tanana Valley Campus 907-455-2800
www.tvc.uaf.edu/its/

Certificate; A.A.S. Degree
Minimum Requirements for Certificate: 32-33 30 credits; for A.A.S. 60-61

The Information Technology Specialist certificate and associate programs teach students how to use, support, implement, and troubleshoot the computer and information technology systems found in educational, governmental and corporate settings.

The certificate program focuses on teaching trains students the essential skills required to effectively use and troubleshoot computers and computer applications, systems in educational, governmental and corporate settings. Students completing the certificate program can continue their education in the Information Technology Specialist A.A.S. or the Applied Business A.A.S. degree program. The certificate program is also designed to enable students to continue their education in the Information Technology Specialist A.A.S. or the Applied Business A.A.S. degree program.

The A.A.S. degree program prepares individuals to implement, support, and troubleshoot computer and information technology systems and obtain employment as an IT professional. Associate degrees in computer technology support, network and system administration, and web development and administration are offered. builds on the certificate program through additional
general education and skill development in information technology services. Students completing the 
A.A.S. degree are qualified for more advanced positions such as the state of Alaska’s microcomputer/network specialist I and II.

As computer complexity increases, more and more employers are looking for workers with 
specific training in computer technology and support skills. The state of Alaska’s 
microcomputer/network technician I and II are examples of such positions. Students not interested in 
employment opportunities may enroll in these programs to improve their computer skills.

Minimum computer knowledge is required for admission to either program. An 
individualized program of courses, projects, readings, practica and other activities is designed with the 
help of a faculty mentor based on the student’s background and skill level. Students must achieve 
competency in applications, networking, troubleshooting, hardware and software configuration, and 
human relations and support. This degree program is delivered collaboratively within the UA system.

Students entering either the certificate or A.A.S. degree program should meet with a faculty 
advisor to discuss program content requirements and develop an educational plan that matches the 
current skills and goals of the student. Students entering the certificate program are expected to have 
basic computer skills equivalent to CIOS 150. While not a requirement, it is recommended that 
students applying for admission into the associate program have computer experience equivalent to 
CIOS 128.

This degree program is delivered collaboratively within the UA system.

Certificate Program

1. Complete the general university requirements (page 86).
2. Complete the certificate degree requirements. (See page 88. As part of the human relations
   requirement complete ABUS 154 or ANTH 100X/SOC 100X or approved human relations
course.)
   Complete the following certificate requirements:
   ENGL F111X—Introduction to Academic Writing (3)
   or ABUS F170—Business English (3)
   or approved applied written communication course .............................................................. 3
   ABUS F155—Business Math (2)
   or approved math course at the 100-level or above (3) ....................................................... 3
   ABUS F154—Human Relations
   or approved human relations course ................................................................................. 3
3. Complete the following program (major) requirements:* core courses*:
   a. Complete the following essentials in computing courses:
      CIOS F128—Using and Configuring PC Operating Systems
      or CIOS F110 CITS F201—Microcomputer Operating Systems Support .................. 3
      CIOS F130—Microcomputer Word Processing ................................................................. 3
      CIOS F135—Microcomputer Spreadsheets .................................................................... 3
      CIOS F146—Using Internet Tools and Technologies (3)
      or CIOS F246 CITS F220—Implementing Internet Tools and Technologies ............... 3
   b. Complete 9 credits from the following or program coordinator approved:
      Complete 9 credits from the following (or demonstrate competency) **:
      CIOS F105 F189—Microcomputer Computer Software Applications; Topics** (3)
      CIOS F106 CITS F201—Microcomputer Operating Systems Support (3)
      CIOS F133—Microcomputer Presentation Software (3)
      CIOS F210 CITS F202—Microcomputer Hardware Support and Software
      Configuration and Troubleshooting (3)
      CIOS F233—Desktop Publishing (3)
      CIOS F240—Microcomputer Databases (3)
      CIOS F246 CITS F220—Implementing Internet Tools and Technologies (3)
      CIOS F251—Integrated Software
      CIOS F255—Microcomputer Graphics (3)
      CIOS F256 CITS F222—Internet Authoring and Design (3)
      CIOS F275—Information Technology: Special Topics ****

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5. Complete CIOS electives ........................................................................................................ 3

6. Pass a certification review requiring students to demonstrate proficiency in the effective use of Applications, Operating Systems, and the Internet.
   Pass a certification review of the following skill areas:
   Application Skills
   Operating System Skills
   Hardware Skills
   Networking Skills
   Troubleshooting Skills

7. Minimum credits required ........................................................................................................ 32-33 30

Major — A.A.S. Degree

Concentrations: Computer Technology Support, Network and System Administration, Web Development and Administration

Computer Technology Support

1. Complete the general university requirements (page 86).
2. Complete the A.A.S. degree requirements. (See page 90. As part of the human relations requirement complete ABUS F154 or ANTH 100X/SOC 100X or approved human relations course.)
3. Complete the following program (major) requirements:* core courses:*
   a. Complete the following computer technology support courses:
      CIOS F110 CITS F201—Microcomputer Operating Systems Support** (3)
      or CIOS F212—Advanced Microcomputer Operating Systems and CITS F210 CITS F202—Microcomputer Hardware Support and Software Configuration and Troubleshooting*** (3)
      or CITS 203—Information Technology Support Fundamentals (4) ........................................ 4-6
      CIOS F211—Computer Technical Support*** ........................................................................... 3
      CIOS F244 CITS F204—Introduction to Network Support and Administration(3)
      or CIOS F245 CITS F241—Networking and LAN Infrastructure Basics*** (4)
      or CIOS F247—Advanced Networking and Communications .................................................. 3-4
      CIOS F276—Independent Project***
      or CIOS F282—Cooperative Work Experience*** ................................................................ 3
      CITS 205—Introduction to Microcomputer Programming (3)
      or CS 103—Introduction to Computer Programming (3)
      or CS 201—Computer Science I (3)
      or CS 205—C Programming (3) ............................................................................................... 3

4. Complete 15 - 16 credits from the following or program coordinator approved: degree (major) requirements (or demonstrate competency).*
   CIOS F105—Computer Software Applications******
   CIOS F130—Microcomputer Word Processing
   CIOS F133—Microcomputer Presentation Software
   CIOS F135—Microcomputer Spreadsheets
   CIOS F146—Using Internet Tools and Technologies
   CITS F212—Server Operating Systems (3)
   CIOS F212 CITS F219—Advanced Microcomputer Operating Systems: Topics** (3)
   CITS F221—Graphics and Multimedia for the Web (3)
   CITS F224—Web Scripting (3)
   CITS F228—Advanced Website Design and Development (3)
   CIOS F214 CITS F282—IT Troubleshooting Skills (3)
   CIOS F215—Information Technology Certification I
   CIOS F216—Information Technology Certification II
IT Specialist Program

Network and System Administration

1. Complete the general university requirements (page 86).

2. Complete the A.A.S. degree requirements. (See page 90. As part of the human relations requirement complete ABUS 154 or ANTH 100X/SOC 100X or approved human relations course.)

3. Complete the following program (major) requirements:
   a. Complete the following system administration courses:
      CITS 204--Introduction to Network Support and Administration ........................................ 3
      CITS 205—Introduction to Microcomputer Programming (3)
      or CS 103--Introduction to Computer Programming (3)

   c. Complete the following IT professional courses:
      CITS F211 CITS F281—Computer Technical Support*** .................................................. 3
      CITS F276 CITS 284—Independent Project (3)*** .......................................................... 3
      or CITS F282 CITS F285—Cooperative Work Experience (3)*** ................................. 3

4. Complete general electives (may be CIOS courses) ..................................................... 6–9

5. Complete the following system administration courses:**
   CITS 204--Introduction to Network Support and Administration ........................................ 3
   CITS 205—Introduction to Microcomputer Programming (3)
   or CS 103--Introduction to Computer Programming (3)

6. Minimum credits required ................................................................................................... 60
or CS 201--Computer Science I (3)
or CS 205--C Programming (3)....................................................................................... 3

CITS 212--Server Operating Systems (3)............................................................................... 3
CITS 240--System and Network Services Administration.................................................... 3
CITS 261--Computer and Information Security.................................................................... 3
CITS 265--Directory Service Administration........................................................................ 3

b. Complete the following network infrastructure courses:
CITS 241--Networking and LAN Infrastructure Basics......................................................... 4
CITS 242--Routers and Routing Basics.................................................................................. 4
CITS 243--Intermediate Networking and LAN Infrastructure................................................ 4
CITS 244--Advanced Network Infrastructure Services........................................................ 4

b. Complete the following web development courses:
CITS 220--Implementing Internet Tools and Technologies ................................................... 3
CITS 221--Graphics and Multimedia for the Web .................................................................. 3
CITS 222--Internet Authoring and Design ............................................................................. 3
CITS 224--Web Scripting........................................................................................................ 3
CITS 225--Web Databases and Programming...................................................................... 3
CITS 228--Advanced Website Design and Development....................................................... 3

c. Complete the following IT Professional courses:
CITS 281--Computer Technical Support............................................................................. 3
CITS 284--Independent Project
or CITS 285--Cooperative Work Experience...................................................................... 3

d. Complete 3 credits of CITS or CS electives .................................................................... 3

4. Pass a certification review requiring students to demonstrate proficiency in the following skill areas: Web Development and System Administration Skills, Independent Thinking Skills, Human Relations and Support Skills, Professional Practices

5. Minimum credits required ................................................................................................. 60

* Student must earn a C grade or better in each program (major) course requirement.
** May be satisfied through credit by exam or prior learning. May be repeated for different topics.

*** May not be satisfied through credit by exam or prior learning under any circumstances and constitutes a culminating experience for the course sequence. Students are expected to have completed CITS 201 and 202 OR CITS 203 or possess equivalent skills prior to beginning coursework in this area.

**** May be repeated for different topics.

Note: Upon admission to the certificate or degree program, each student will be assigned a mentor/committee chairperson who will be responsible for determining the student’s current level of competency in the various skill areas; assisting the student in determining the courses/experiences necessary for gaining competency in the deficient skill areas; setting up the student’s committee to consist of the mentor and at least one other individual who may be a UA faculty member, an adjunct faculty member, or an expert in the student’s community; arranging for practicum experiences in the student’s community; and organizing the committee’s final assessment of the student’s work and recommending award of the certificate or degree.

Note: A 9 credit core sequence, required of all students no matter what their level of expertise, will be assessed by a committee of permanent and adjunct faculty for the final granting of the certificate or degree.

D. ESTIMATED IMPACT

**WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.**

These Program/Degree Requirement changes will have no impact on facilities/space. There are 12 of the 16 courses detailed within the system administration course sequence, network infrastructure course sequence, and web development course sequence that are currently being taught by regular full-time faculty or adjunct faculty. We anticipate that the remaining four of these 16 courses will be taught by adjunct faculty; however, the budget impact of these four courses will be off-set by the reduced number of application course that will be offered to support the degree program. All remaining courses within the IT Specialist are also already being taught on a consistent basis by full-

E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?

Include information on the Programs/Departments contacted (e.g., email, memo)

IT Specialist (ITS) program. All CRCD CIOS and ITS faculty from the following campus have been contacted regarding this change: CDE, IAC, KuC, NWC, TVC.

UAF Computer Science department. The inclusion of a number of CS course within the degree program has been done with the consent and support of faculty within the CS department – see
F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Our current student learning outcomes assessment process requires that, prior to graduation, all students complete a Certification Review process which consist of student demonstration of their technical skills through a hands-on scenario task and developing and presenting a portfolio of work that demonstrates their professional and critical thinking skills.

We will continue to implement the same student learning outcomes assessment process once these changes have been adopted; however, we will adjust the hands-on scenario task and portfolio tasks to reflect the more specific skill sets developed by students through the completion of a given concentration.

More information about how our current outcomes assessment plan is implemented can be found at

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

The degree requirement changes within this Format 5 form have been developed with the input and collaboration of ITS faculty within CRCD, members of our community advisory council, and faculty within the UAF Computer Science department. These proposed changes reflect the following goals:

1) A desire to improve the relevancy of the skills and knowledge that all our graduates possess upon completion of the degree;

2) Develop opportunities for collaboration with the UAF Computer Science department. Faculty from both programs/departments are interested in looking for ways to collaborate; and many of these proposed changes represent a first step towards future opportunities for collaboration and the development of pathways for students to continue their education from the associate to the bachelors level.

3) Make it easier for new and prospective students and non-ITS program advisors to understand the purpose of the degree and the program requirements

It is our belief that the accomplishment of each of these goals serves to raise the quality of the education received by UAF IT Specialist degree program students. The following paragraphs describe how the changes proposed within this Format 5 form will accomplish the goals outlined above.

The removal of the application focused courses from counting towards the section 4 requirements of the current A.A.S. degree is being done because expert use of Word, Excel, PowerPoint, etc. are not key skills expected of computer support professionals in today’s IT support positions. In fact, our recent experience in working with members of our community advisory council, employers, and recent graduates is that students with too high of a concentration of these skills (and not enough technical skills) are not competitive for the IT support positions currently available in the marketplace. Removal of these application focused courses from counting towards the section 4 requirements of the current A.A.S. degree will provide a greater level of assurance that students are developing the technical skills required for success in current IT support positions.

During the development of the concentrations proposed through this Format 5 form, specifically the network and system administration concentration and the web development and administration concentration, we looked at our current courses offerings to addressed deficiencies as they related to each concentration area. It is our belief that the following bullets items are all examples of changes that will increase the quality of our graduates:

- All ITS graduates will be required to complete a introductory programming course;
- The addition of the following required classes in the network and system administration concentration: CITS F261 Computer and Information Security and CITS F265 Directory
Services Administration, and;

- The addition of the following required classes in the web development and administration concentration: CITS 221 Graphics and Multimedia for the Web, CITS 224 Web Scripting, and CITS F228 Advanced Website Design and Development.

A key factor driving the use of the new CITS course designator and the movement of our technical courses into this new designator is that the opportunities to collaborate with the UAF Computer Science department will be much greater if we group our technical support course offerings into a designator that differs from our application course offerings. In addition to increasing opportunities for collaboration, this simple change, offers students more clarity between our technical courses focused on professional IT support and our application courses focused on developing proficiencies as an end user of computer technology.

The intent of creating the proposed concentrations for the ITS A.A.S. degree is to offer the degree in a way that new and prospective students and non-IT program advisors can more easily see the purpose of the degree and program requirements. Currently, a majority, of the students completing the IT Specialist degree are completing a concentration of coursework that closely matches either the network and system administration concentration or the web development and administration concentration being proposed through this Format 5 form. The way the degree is currently offered through the catalog requires an in-depth conversation with a program advisor to explain how, and which, courses listed within the section 4 requirements of the current A.A.S. degree can be used to develop a degree plan that closely matches these two proposed concentration areas. This is a time-intensive process and must be done by a program faculty advisor. There are always a number of students that receive their initial advising from someone other than an ITS program advisor and end up with course selections that meet the current degree requirements (as currently indicated by the section 4 requirements of the current A.A.S. degree), but that are not relevant to the student’s goals and interests as they relate to these two proposed concentration areas. Explicitly providing these two concentration areas within the catalog will provide students and non-ITS program advisors a much clearer direction of the courses required within these two concentration areas.

**APPROVALS: SIGNATURES ON FILE AT THE GOVERNANCE OFFICE**

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature, Chair, Program/Department of: Coordinator, IT Specialist Program</th>
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<td>10/6/2008</td>
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<tr>
<th>Date</th>
<th>Signature, CRCD Division Coordinator for: Business Systems Technology</th>
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<tr>
<th>Date</th>
<th>Signature, Chair, College/School Curriculum Council for: College of Rural and Community Development</th>
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**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE**

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature, Chair, UAF Faculty Senate Curriculum Review Committee</th>
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</table>
Hi Keith,
Melissa showed me the table of CIOS-to-CITS course changes you sent to her. It's a great layout and should help with making those name, designator and numbering changes.

As you are simultaneously making a significant program change, a Format 5 form should also be done (Program Requirement Change - major/minor):
--The format 5 will help ensure that the program content and appearance in the catalog (print and online) will reflect the changes accurately; --The format 5 will go through curriculum committee review at both the college and senate levels, so everyone is made aware of the changes (including the Provost's office, and those working on the catalog).

You may find the form online at:
http://www.uaf.edu/uafgov/faculty/cd/

Thanks,
Jayne
**Course Designator Changes (revision 3)**

Currently the **Computer Information and Office Systems (CIOS)** designator contains both computer application and office system courses and technical computer and information technology courses.

Our goal is to create a separate designator for our *technical computer information technology* courses and to move our *technical computer and information technology* courses to this designator. We are proposing the designator of **Computer and Information Technology Systems (CITS)**

At the time of this move we would also like to take the opportunity to re-number these courses into a sequence that is more logical for students working though the IT Specialist degree program.

<table>
<thead>
<tr>
<th>Current CIOS course number and title</th>
<th>Proposed CITS course number and title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIOS F110 Microcomputer Operating Systems</td>
<td>CITS F201 Microcomputer Operating System Support</td>
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<tr>
<td>CIOS F210 Hardware and Software Configuration and Troubleshooting</td>
<td>CITS F202 Microcomputer Hardware Support</td>
</tr>
<tr>
<td>CIOS F211 Computer Technical Support</td>
<td>CITS F281 Computer Technical Support</td>
</tr>
<tr>
<td>CIOS F212 Advanced Microcomputer Operating Systems</td>
<td>CITS F219 Microcomputer Operating Systems: Topics</td>
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<tr>
<td>CIOS F214 IT Troubleshooting Skills</td>
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<tr>
<td>CIOS F244 Introduction to Network Support and Administration</td>
<td>CITS F204 Introduction to Network Support and Administration</td>
</tr>
<tr>
<td>CIOS F245 Networking and LAN Infrastructure Basics</td>
<td>CITS F241 Networking and LAN Infrastructure Basics</td>
</tr>
<tr>
<td>CIOS F246 Implementing Internet Tools and Technologies</td>
<td>CITS F220 Implementing Internet Tools and Technologies</td>
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<tr>
<td>CIOS F247 Advanced Networking and Communications</td>
<td>CITS F249 Networking and Communications: Topics</td>
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<tr>
<td>CIOS F249 Routers and Routing Basics</td>
<td>CITS F242 Routers and Routing Concepts</td>
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<tr>
<td>CIOS F250 Intermediate Networking and LAN Infrastructure</td>
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<td>CIOS F256 Internet Authoring and Design</td>
<td>CITS F222 Internet Authoring and Design</td>
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<td>CIOS F271 Web Databases and Programming</td>
<td>CITS F225 Web Databases and Programming</td>
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<tr>
<td>CIOS F270 Microcomputer Programming</td>
<td>CITS F205 Introduction to Microcomputer Programming</td>
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<tr>
<td>CIOS F275 Information Technology: Special Topics</td>
<td>CITS F289 Information Technology: Topics</td>
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<td>CIOS F276 Independent Project</td>
<td>CITS F284 Independent Project</td>
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<tr>
<td>CIOS F282 Cooperative Work Experience</td>
<td>CITS F285 Cooperative Work Experience</td>
</tr>
<tr>
<td>CIOS F288 Professional Certification Review</td>
<td>CITS F288 Professional Certification Review</td>
</tr>
</tbody>
</table>
memorandum

Date: 9/24/2008
To: Curriculum Review Committee
Cc: Keith Swarner
From: Kara Nance, Department Head, Computer Science
RE: Information Technology Specialist Curriculum

The University of Alaska Fairbanks Computer Science Department is pleased to endorse the changes in the Information Technology Specialist curriculum. We have worked with Keith Swarner and his department to develop a plan that will allow our departments to work together more closely to the benefits of both of our student populations.

For many years, the IT Specialist program has been viewed as a terminal degree, with students who wish to continue on to a B.S. in Computer Science essentially forced to start again as freshmen, which is a barrier to education that few are willing to undertake. There are several historical issues associated with this challenge including the following:

The incredible variation in the courses that can be used to obtain the current IT Specialist degree results in graduating student population with extremely heterogeneous capabilities. This issue is addressed by the separation of the degree into more homogeneous concentrations that are consistent with and feed into different follow-on degrees with the Network and System Administration and Web Development and Administration tracks creating logical pathways into a B.S. in Computer Science or Computer Engineering. These concentrations include CS courses as core and elective options and we will continue to work closely with the department to develop courses in both departments that meet the needs of these populations and make the potential transition to a baccalaureate degree increasingly seamless.

The “lack of focus” in the existing degree diminishes the professional credibility of the degree. This issue is addressed by the development of concentrations with a far more concise list of courses that result in a more cohesive education and skillset associated with each concentration.

The course requirements did not encourage options that lead to follow-on degrees. This issue is addressed by the inclusion of baccalaureate core classes and entry-level computer science course options in the course requirements coupled with the cooperative advising of students who might choose to continue their education after obtaining the A.A.S.

The CIOS courses were not seen as a viable option for Computer Science students due to the great variation in the course content, depth, and level. This issue is handled by the division of the CIOS courses into CITS and CIOS. The CITS courses are more viable options for computer science students and will promote the combination of our lower division CS student pool with the CITS student pool.

The requested curriculum changes are substantial, but are the result of careful planning and coordination by the departments. While the current course changes and program changes are
enumerated, there are other plans for cooperation that do not appear in these forms that will strengthen this program including: shared advising, shared laboratory resources, shifting student pools between the institutions, as well as future plans for cross-listing of courses, increased distance education offerings, sharing of faculty, development of new courses, etc.

We strongly support the changes delineated here and are confident that these changes will allow us to better serve (and combine) our student constituencies. The concentrations help to streamline the A.A.S. as a stepping stone to further education and provide new more streamlined pathways for students. While it is difficult in one memo to enumerate all of the positive aspects of these changes that have been discussed at our many meetings, I hope that I have captured some of the most important aspects in support of the changes that will help us to build a stronger work force while encouraging educational growth for our students.

If you have any questions, please feel free to contact me.
Certificate; A.A.S. Degree  
Minimum Requirements for Certificate: 30 credits; for A.A.S. 60-61

The Information Technology Specialist certificate and associate programs teach students how to use, support, implement, and troubleshoot the computer and information technology systems found in educational, governmental and corporate settings.

The certificate program focuses on teaching students the essential skills required to effectively use and troubleshoot computers and computer applications. Students completing the certificate program can continue their education in the Information Technology Specialist A.A.S. or the Applied Business A.A.S. degree program.

The A.A.S. degree program prepares individuals to implement, support, and troubleshoot computer and information technology systems and obtain employment as an IT professional. Associate degrees in computer technology support, network and system administration, and web development and administration are offered.

Students entering either the certificate or A.A.S. degree program should meet with a faculty advisor to discuss program content requirements and develop an educational plan that matches the current skills and goals of the student. Students entering the certificate program are expected to have basic computer skills equivalent to CIOS 150. While not a requirement, it is recommended that students applying for admission into the associate program have computer experience equivalent to CIOS 150. While not a requirement, it is recommended that students applying for admission into the associate program have computer experience equivalent to CIOS 150.

This degree program is delivered collaboratively within the UA system.

Certificate Program

1. Complete the general university requirements (page 86).
2. Complete the certificate degree requirements. (See page 88. As part of the human relations requirement complete ABUS 154 or ANTH 100X/SOC 100X or approved human relations course.)
3. Complete the following program (major) requirements:*  
   a. Complete the following essentials in computing courses:  
      CIOS F128—Using and Configuring PC Operating Systems  
      or CITS F201—Microcomputer Operating Systems Support ........................................... 3  
      CIOS F130—Microcomputer Word Processing ................................................................. 3  
      CIOS F135—Microcomputer Spreadsheets ....................................................................... 3  
      CIOS F146—Using Internet Tools and Technologies ...................................................... 3  
      or CITS F220—Implementing Internet Tools and Technologies ................................... 3  
   b. Complete 9 credits from the following or program coordinator approved:  
      CIOS F133—Microcomputer Presentation Software (3)  
      CIOS F189—Microcomputer Applications: Topics**(3)  
      CIOS F233—Desktop Publishing (3)  
      CIOS F240—Microcomputer Databases (3)  
      CIOS F255—Microcomputer Graphics (3)  
      CIOS F258—Digital Photography (3)  
      CITS F201—Microcomputer Operating Systems Support (3)  
      CITS F202—Microcomputer Hardware Support (3)  
      CITS F203—Information Technology Support Fundamentals (4)  
      CITS F204—Introduction to Network Support and Administration (3)  
      CITS F220—Implementing Internet Tools and Technologies (3)
Attachment 3 – IT Specialist catalog text after proposed changes are approved

CITS F221—Graphics and Multimedia for the Web (3)  
CITS F222—Internet Authoring and Design (3) ................................................................. 9

4. Pass a certification review requiring students to demonstrate proficiency in the effective use of Applications, Operating Systems, and the Internet.

5. Minimum credits required ......................................................................................... 30

Major — A.A.S. Degree

Concentrations: Computer Technology Support, Network and System Administration, Web Development and Administration

Computer Technology Support

1. Complete the general university requirements (page 86).
2. Complete the A.A.S. degree requirements. (See page 90. As part of the human relations requirement complete ABUS F154 or ANTH 100X/SOC 100X or approved human relations course.)
3. Complete the following program (major) requirements:*  
   a. Complete the following computer technology support courses:
      CITS F201—Microcomputer Operating Systems Support (3)  
      and CITS F202—Microcomputer Hardware Support (3)  
      or CITS 203—Information Technology Support Fundamentals (4) ....................... 4-6  
      CITS F204—Introduction to Network Support and Administration (3)  
      or CITS F241—Networking and LAN Infrastructure Basics (4) ............................. 3-4  
      CITS 205—Introduction to Microcomputer Programming (3)  
      or CS 103—Introduction to Computer Programming (3)  
      or CS 201—Computer Science I (3)  
      or CS 205—C Programming (3) ........................................................................... 3  
   b. Complete 15 - 16 credits from the following or program coordinator approved:  
      CITS F212—Server Operating Systems (3)  
      CITS F219—Microcomputer Operating Systems: Topics (3)**  
      CITS F220—Implementing Internet Tools and Technologies (3)  
      CITS F221—Graphics and Multimedia for the Web (3)  
      CITS F222—Internet Authoring and Design (3)  
      CITS F224—Web Scripting (3)  
      CITS F225—Web Databases and Programming (3)  
      CITS F228—Advanced Website Design and Development (3)  
      CITS F240—System and Network Services Administration (3)  
      CITS F241—Networking and LAN Infrastructure Basics (4)  
      CITS F242—Routers and Routing Concepts (4)  
      CITS F243—Intermediate Networking and LAN Infrastructure (4)  
      CITS F244—Advanced Networking Infrastructure Services (4)  
      CITS F249—Networking and Communications: Topics** (3)  
      CITS F261—Computer and Information Security (3)  
      CITS F265—Directory Services Administration (3)  
      CITS F282—IT Troubleshooting Skills (3)  
      CITS F289—Information Technology: Topics (1-3)** ............................................. 15-16  
   c. Complete the following IT professional courses:
      CITS F281—Computer Technical Support .................................................................. 3  
      CITS 284—Independent Project (3)  
      or CITS F285—Cooperative Work Experience (3) ................................................. 3  
   d. Complete CIOS, CITS or CS electives ................................................................. 6  
4. Complete general electives ..................................................................................... 4-8
5. Pass a certification review requiring students to demonstrate proficiency in the following skill areas: Operating Systems and Hardware Support and Troubleshooting; Network Support and Troubleshooting; Independent Thinking; Human Relations and Support; and Professional Practices.

6. Minimum credits required .................................................................................................. 60

Network and System Administration

1. Complete the general university requirements (page 86).
2. Complete the A.A.S. degree requirements. (See page 90. As part of the human relations requirement complete ABUS 154 or ANTH 100X/SOC 100X or approved human relations course.)
3. Complete the following program (major) requirements:*
   a. Complete the following system administration courses:**
      CITS 204—Introduction to Network Support and Administration................................. 3
      CITS 205—Introduction to Microcomputer Programming (3)
      or CS 103—Introduction to Computer Programming (3)
      or CS 201—Computer Science I (3)
      or CS 205—C Programming (3)................................................................. 3
      CITS 212—Server Operating Systems (3).............................................................. 3
      CITS 240—System and Network Services Administration....................................... 3
      CITS 261—Computer and Information Security..................................................... 3
      CITS 265—Directory Services Administration....................................................... 3
   b. Complete the following network infrastructure courses:
      CITS 241—Networking and LAN Infrastructure Basics............................................ 4
      CITS 242—Routers and Routing Basics................................................................. 4
      CITS 243—Intermediate Networking and LAN Infrastructure.............................. 4
      CITS 244—Advanced Network Infrastructure Services........................................... 4
   c. Complete the following IT Professional courses:
      CITS 281—Computer Technical Support.............................................................. 3
      CITS 284—Independent Project
      or CITS 285—Cooperative Work Experience.......................................................... 3
   d. Complete 6 credits of CITS or CS electives................................................................. 6
4. Pass a certification review requiring students to demonstrate proficiency in the following skill areas: Network Infrastructure and System Administration Skills, Independent Thinking Skills, Human Relations and Support Skills, Professional Practices
5. Minimum credits required.................................................................................................. 61

Web Development and Administration

1. Complete the general university requirements (page 86).
2. Complete the A.A.S. degree requirements. (See page 90. As part of the human relations requirement complete ABUS 154 or ANTH 100X/SOC 100X or approved human relations course.)
3. Complete the following program (major) requirements:*
   a. Complete the following system administration courses:**
      CITS 204—Introduction to Network Support and Administration................................. 3
      CITS 205—Introduction to Microcomputer Programming (3)
      or CS 103—Introduction to Computer Programming (3)
      or CS 201—Computer Science I (3)
      or CS 205—C Programming (3)................................................................. 3
      CITS 212—Server Operating Systems (3).............................................................. 3
      CITS 240—System and Network Services Administration....................................... 3
      CITS 261—Computer and Information Security..................................................... 3
      CITS 265—Directory Services Administration....................................................... 3
   b. Complete the following web development courses:
      CITS 220—Implementing Internet Tools and Technologies.................................... 3
c. Complete the following IT Professional courses:
   CITS 281—Computer Technical Support................................................................. 3
   CITS 284—Independent Project
   or CITS 285—Cooperative Work Experience.......................................................... 3

d. Complete 3 credits of CITS or CS electives.......................................................... 3

4. Pass a certification review requiring students to demonstrate proficiency in the following skill areas: Web Development and System Administration Skills, Independent Thinking Skills, Human Relations and Support Skills, Professional Practices

5. Minimum credits required.......................................................................................... 60

* Student must earn a C grade or better in each program (major) course requirement.
** May be repeated for different topics.
*** Students are expected to have completed CITS 201 and 202 OR CITS 203 or possess equivalent skills prior to beginning coursework in this area.

Note: Upon admission to the certificate or degree program, each student will be assigned a mentor/committee chairperson who will be responsible for determining the student’s current level of competency in the various skill areas; assisting the student in determining the courses/experiences necessary for gaining competency in the deficient skill areas; setting up the student’s committee to consist of the mentor and at least one other individual who may be a UA faculty member, an adjunct faculty member, or an expert in the student’s community; arranging for practicum experiences in the student’s community; and organizing the committee’s final assessment of the student’s work and recommending award of the certificate or degree.