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UNIVERSITY OF IDAHO

SUBJECT

Status report on the University of Idaho Program Prioritization Process: review of recommended closures and consolidations of academic programs.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G.9.

BACKGROUND/DISCUSSION

The Council on Academic Affairs and Programs has requested the University of Idaho present an overview of their program prioritization process for informational purposes.

The University of Idaho determined over the last three years of strategic planning that its academic degree offerings were too many in number and too broad in scope to be sustained in the current environment of shrinking higher education resources in Idaho, and nationally. They committed to increase the focus of their undergraduate and graduate academic programs and to shape research and outreach to meet pressing state, regional, national, and international needs.

University of Idaho President Daley-Laursen, upon assuming office in summer 2008, charged Provost and Executive Vice President Doug Baker and the Provost's Council, comprised of the academic deans and other direct reports of the provost, with reviewing all academic degree programs in light of the need to refocus the institution "for a vital, vibrant, sustainable future."

The University of Idaho's academic Program Prioritization Process, part of the ongoing implementation of the institution's Strategic Action Plan, began in fall 2008. As the first step in the Program Prioritization Process, the deans assembled data for an initial review of all departments within each college, based on criteria developed by the Council and approved for their use by the Faculty Council. In addition, data from existing reports, evaluations, and analyses – some very current and some pre-dating the launch of the Strategic Action Plan – were available to inform the deans' assessment of their college's academic degree programs. To conduct the review, a template was designed to identify a concise set of data elements for each academic department that were easily defined, readily available, and which provided a high-level summary of each department's resources and productivity.

The Provost's Council then considered the results of the deans' initial, department-focused assessment. It became clear that within a particular department, there may be a degree program that is considered very strong and another program that is less productive, rendering the departmental review

inconclusive. As a result, the decision was made to review specific individual degree programs instead of departments.

This more detailed review was intended to provide data to assist in determining areas of programming that should be transformed or de-emphasized. This evaluation was conducted in an objective and self-critical manner in order to provide an accurate assessment of the University's current performance and lay the foundation for achieving our vision for the future.

The academic deans of the University's colleges, Provost's Council members, academic departments, college curriculum committees, Graduate Council, the University Curriculum Committee, and the Faculty Council have reviewed and voted on each proposal, per the formal process laid out in the University's Notice of Intent (NOI) policy. Approximately 41 degree programs were recommended for closure or consolidation. The majority of these recommendations have since passed through each of the normal intra-University review processes, ending with the non-binding vote of the Faculty Council. Thirty of these program recommendations are now in the State Board of Education review and decision process. The remaining recommendations are under review at various earlier stages of the university's process.

Overall, the number of students enrolled in the affected degree programs is low in number (current and historical enrollments were one of the criteria by which the programs were evaluated), and the vast majority of those students will be unaffected by the closure or consolidation of their program. Following is an assessment of total student impact which will help the Board understand the anticipated effects on students. Please note that this assessment is based on all of the 41 degree programs that are recommended for closure/consolidation, and as such includes, but does not address specifically, the subset of 30 programs that is currently in the Board process.

While there are currently 464 students whose primary major is one of the 41 programs, a significant majority of these students (308) are upper-division or graduate-level students, who will have the opportunity to complete their degree at the University of Idaho over the next two years -- as is standard procedure through the "teach-out" policy. An additional 26 undergraduate students will have the opportunity to continue in a proposed newly-consolidated program in the College of Agricultural and Life Sciences. The remaining 130 students (approximately 1% of total enrollment) will have three scenarios: 1) accelerate their programs (depending on their specific progress toward degree) to complete major requirements in the defined two-year "teach-out" period; 2) change their major to a similar degree program offered in other departments or colleges; or 3) decide to remain in their current major, in which case they will not be able to complete their degree program at the University of Idaho, and assistance will be provided in finding an acceptable alternative. Students have been contacted about these scenarios.

IMPACT

The estimated financial impact for closure of any one of the proposed programs has been determined by institution staff to be well below the $250,000 threshold for full Board review. However, it is our intent to bring forward any NOI's with significant concerns for full board review. The others will go through the normal approval process by the Executive Director and the Council on Academic Affairs and Programs (CAAP).

Each academic degree program costs the University in terms of both human and fiscal resources such as instructional (faculty) resources; departmental staff support; advising staffing and support; Registrar resources, including University Catalog, database, and accounts receivable administration; etc. It should be understood that in closing or consolidating degree programs, significant time and effort costs are reduced so that they can be reinvested in other programs to better serve students and the state.

ATTACHMENTS

Attachment 1 – University of Idaho Academic Program Prioritization Process: Proposed Closures and Consolidations   Page 5

STAFF COMMENTS AND RECOMMENDATIONS

As part of the University of Idaho's (UI) strategic action plan, a detailed review of its departments and academic programs was conducted to refocus and prioritize programs for the university. The UI submitted more than 32 Notices of Intent (NOI) to the Office of the State Board of Education of which only 30 completed the CAAP review process. The UI is requesting approval to close or consolidate programs that were identified as less productive or which could be merged and transformed into stronger programs. Staff reviewed the NOIs and noted that the fiscal impact for these requests will be significantly less than the required threshold for Board approval. Four requests will have a fiscal impact of $69,273 to $104,925 (a cost-savings in personnel). There are no direct costs or savings resulting from the closure of the remaining programs. Any less tangible resources (e.g. faculty/staff time) will be reallocated to higher priority programs.

BOARD ACTION

This item is for informational purposes only. Any action will be at the Board's discretion.

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UNIVERSITY OF IDAHO
Academic Program Prioritization Process: Status of Proposed Closures and Consolidations

College of Education	
Counseling and Human Services (Ed.S. Counseling)	Approved Faculty Council; submitted SBOE
Curriculum and Instruction (M.S.)	Approved Faculty Council; submitted SBOE
Education (Ed.S.Ed.)	Approved Faculty Council; submitted SBOE
Educational Leadership (M.S.)	Approved Faculty Council; submitted SBOE
Physical Education (M.S.)	Approved Faculty Council; submitted SBOE
Professional Technical and Technology Education (M.S.)	Approved Faculty Council; submitted SBOE
Technology and Training Development (B.S. Tech. – Moscow only)	Approved Faculty Council; submitted SBOE
Special Education (Ed.S.Sp.Ed.)	Approved Faculty Council; submitted SBOE
Special Education (M.S.)	Approved Faculty Council; submitted SBOE

College of Letters, Arts & Social Sciences	
Communication Studies (B.A.)	Approved Faculty Council; submitted SBOE
Communication Studies (B.S.)	Approved Faculty Council; submitted SBOE
German (B.A.)	Approved Faculty Council; submitted SBOE
German (M.A.T.)	Approved Faculty Council; submitted SBOE
Justice Studies (B.A.)	Approved Faculty Council; submitted SBOE
Justice Studies (B.S.)	Approved Faculty Council; submitted SBOE
French (M.A.T.)	Approved Faculty Council; submitted SBOE
Spanish (M.A.T.)	Approved Faculty Council; submitted SBOE
History (M.A.T.)	Approved Faculty Council; submitted SBOE

College of Art & Architecture	
Landscape Architecture (M.S.)	Pending further internal consideration
Architecture (M.S.)	Not approved Fac. Council; pending administrative decision
Art (M.A.T.)	Not approved Fac. Council; pending administrative decision

College of Science	
Physics (B.A.)	Currently in further planning discussion within the College
Physics (B.S.)	Currently in further planning discussion within the College
Chemistry (M.A.T.)	Approved Faculty Council; submitted SBOE
Earth Science (M.A.T.)	Approved Faculty Council; submitted SBOE
Geography (M.A.T.)	Approved Faculty Council; submitted SBOE
Physics (M.A.T.)	Approved Faculty Council; submitted SBOE
Biology (M.N.S.)	Approved Faculty Council; submitted SBOE

College of Agricultural and Life Sciences	
Three programs below combined into B.S.Ag.L.S. with 3 majors and 5 emphases:	Approved Faculty Council; submitted SBOE
Agricultural Science and Technology (B.S.)	Approved Faculty Council; submitted SBOE
Agricultural Systems Management (B.S.)	Approved Faculty Council; submitted SBOE
Agroecology, Horticulture and Environmental Quality (B.S.)	Approved Faculty Council; submitted SBOE
Ag Education, Industry Management & Communications options (B.S.)	Approved Faculty Council; submitted SBOE
Family and Consumer Sciences Education Option (B.S.)	Approved Faculty Council; submitted SBOE
Range and Livestock Management (B.S.- Shared with CNR)	Approved Faculty Council; submitted SBOE
Veterinary Sciences (M.S.)	Approved Fac. Council; pending submission to SBOE

College of Natural Resources	
Programs below combined into M.S. in Natural Resources	Approved Fac. Council; pending submission to SBOE
Fisheries Resources(M.S.)	Part of above consolidation
Forest Products (M.S.)	Part of above consolidation
Forest Resources(M.S.)	Part of above consolidation
Range Resources (M.S.)	Part of above consolidation
Wildlife Resources(M.S.)	Part of above consolidation
Conservation Social Science (M.S.)	Part of above consolidation

College of Engineering	
Geological Engineering (M.S.)	Not approved Fac. Council; pending administrative decision

COLLEGE OF WESTERN IDAHO

SUBJECT

Implement a new program in Information Technologies with options leading to Technical Certificates, Advanced Technical Certificates, and Associate of Applied Science Degrees.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G.4(b) and 5(a), Program Approval and Discontinuance
Section 33-107 (7) and 33-4005, Idaho Code Role and Mission – College of Western Idaho

BACKGROUND/DISCUSSION

Student interest in information technology programs at Boise State University's Selland College of Technology has been strong for a number of years. The scope of the programs were limited, and the faculty have been increasingly concerned about graduating too many students with "cookie-cutter" skills. The Selland College/College of Western Idaho (CWI) faculty undertook an extensive research project. The project examined national data and consulted with local industry representatives to determine Information Technology (IT) trends and unmet employer needs locally, and developed a model for multiple IT career training tracks. Technical Advisory Committee (TAC) members unanimously agreed with the curriculum diversification concept and offered suggestions for skill sets that should be considered. This new program will replace the Computer Network Technology and Computer Service Technology programs which will be discontinued in fall 2009 when Professional Technical Education (PTE) programs transfer from Boise State University to the College of Western Idaho.

Employment opportunities for IT professionals are strong and growing. Idaho's Department of Labor data indicates that jobs for IT professional are projected to be among the top 50 "Hot Jobs" for the Southwestern region.

This program, while being an update of the Computer Network and Computer Service technology programs, falls within the role and mission as well as the strategic plan of College of Western Idaho.

IMPACT

It can be seen from the Expenditures and Source of Funds page of the Notice of Intent that funds for the Information Technologies program will be reallocated from two existing programs that are being revamped. No new faculty, operating, or capital expenses are being requested. The positive impact for this program will be better trained students and graduates who are prepared for reasonably anticipated jobs in region. Not approving this request will result in programs that are increasingly out dated.

ATTACHMENTS
Attachment 1 – Notice of Intent   Page 3

STAFF COMMENTS AND RECOMMENDATIONS
Instruction, Research, and Students Affairs Committee; Council on Academic Affairs and Programs; Professional-Technical Education; and staff recommend approval of the request from the College of Western Idaho to implement a new program in Information Technologies with options leading to Technical Certificates, Advanced Technical Certificates, and Associate of Applied Science Degrees as presented in Attachment 1.

BOARD ACTION
A motion to approve the request by the College of Western Idaho to implement a new program in Information Technologies as presented.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Idaho
Professional-Technical
Education

Idaho Division of Professional-Technical Education
650 West State Street, P.O. Box 83720, Boise, Idaho 83720-0095
Phone (208) 334-3216, Fax (208) 334-2365
http://www.pte.idaho.gov

M E M O R A N D U M

April 3, 2009

TO: Mike Rush
            Executive Director
            State Board of Education

FROM   Ann Stephens
            Administrator

SUBJECT: Notices of Intent

In accordance with State Board policy, the enclosed Notices of Intent (10) are forwarded for approval by the State Board for Professional-Technical Education.

The College of Western Idaho has requested to add a new **Information Technologies** program with seven (7) options as follows:

1) **Digital Home Technology Technician** – Technical Certificate/Advanced Technical Certificate/AAS Degree
2) **Information Technology Technician** – Technical Certificate
3) **Information Technology Security and Forensics** – Advanced Technical Certificate/AAS Degree
4) **Internetworking and Communication Technologies** – Advanced Technical Certificate/AAS Degree
5) **Network Administration** – Advanced Technical Certificate/AAS Degree
6) **PC and Document Imaging Technician** – Advanced Technical Certificate/AAS Degree
7) **Web Development** – Advanced Technical Certificate/AAS Degree

The proposed starting date is Fall 2009.

The Division has reviewed and approved this request and recommends State Board approval. Please notify the Division office of State Board action when completed.

If you have any questions regarding the request, please let me know. Thank you.

AS/ds

Enclosure

"Committed to Excellence: Preparing Tomorrow's Workforce Through Quality Leadership and Service"

IDAHO STATE BOARD OF EDUCATION
ACADEMIC/PROFESSIONAL-TECHNICAL EDUCATION
NOTICE OF INTENT
To initiate a
New, Expanded, Cooperative, Discontinued, program component or Off-Campus Instructional Program or Instructional/Research Unit

Institution Submitting Proposal: **College of Western Idaho**

Name of College, School, or Division: **Professional Technical Education**

Name of Department(s) or Area(s): **Information Technology**

Indicate if this Notice of Intent (NOI) is for an Academic or Professional Technical Program
   Academic _____ **Professional - Technical ___X___**

A New, Expanded, Cooperative, Contract, or Off-Campus Instructional Program or Administrative/Research Unit (circle one) leading to (Degree or Certificate):

TC, ATC, and AAS certificate and degree options in Information Technologies

Proposed Starting Date: **Fall 2009**

For New Programs:

Information Technologies

Program (i.e., degree) Title & CIP 2000
OPTIONS:
TC in Information Technology Technician; CIP 2000-11.1001
TC/ATC/AAS in Digital Home Technology Technician; CIP 2000-47.0101
TC/ATC/AAS in PC and Document Imaging Technician; CIP 2000-47.0199
ATC/AAS in Information Technology Security and Forensics; CIP 2000-11.1003
ATC/AAS in Internetworking and Communication Technologies; CIP 2000-11.0901
ATC/AAS in Network Administration; CIP 2000-11.1001
ATC/AAS in Web Development; CIP 2000-11.0801

For Other Activity:

☐ Off-Campus Activity/Resident Center

☐ Program Component (major/minor/option/emphasis)

☐ Instructional/Research Unit

☐ Addition/Expansion

☐ Discontinuance/consolidation

Revised 8/9/06

College Dean (Institution)	Date	VP Research & Graduate Studies	Date
Cheryl A Wright	3/31/09	_Ann Stephens_	4-3-09
Chief Fiscal Officer (Institution)	Date	State Administrator, SDPTE	Date
Victor BreWater	3-31-09		
Chief Academic Officer (Institution)	Date	Chief Academic Officer, OSBE	Date
President	Date	SBOE/OSBE Approval	Date
[signature]	3/31/09		

Before completing this form, refer to Board Policy Section III.G. Program Approval and Discontinuance.

1. Briefly describe the nature of the request e.g., is this a new program (degree, program, or certificate) or program component (e.g., new, discontinued, modified, addition to an existing program or option).

The College of Western Idaho requests action to start a new Information Technologies program with a choice of options leading to TC, ATC, and AAS certificates and degrees.

2. Provide a statement of need for program or program modification. Include student and state need, demand, and employment potential. *Attach a Scope and Sequence, SDPTE Form Attachment B, for professional-technical education requests.* (Use additional sheets if necessary.)

Student interest in information technology programs at Boise State University's Selland College of Applied Technology has been strong for a number of years. Classes have been relatively full, and over 90% of students have found employment upon graduation. However, the scope of the information technology programs was limited, and the faculty have been increasingly concerned about graduating too many students with "cookie-cutter" skills. Graduates from the Computer Network Technology and Computer Service Technology programs reported that they all seemed to be competing for the same jobs, and there were a number of jobs in the geographic region for which the graduates lacked appropriate skill sets. This concern led the faculty to undertake an extensive research project. They examined national data and consulted with local industry reps to determine IT trends and unmet employer needs locally. Next they developed a model for multiple IT career training tracks. In December 2006 they shared the model with an IT Advisory Committee comprised of local employers from various industries. TAC members unanimously agreed with the curriculum diversification concept and they offered suggestions for skill sets that should be considered. Ongoing collaboration led to development of new curriculum. The result of this extensive effort is this request for creation of a new Information Technologies program, with multiple options, in the Center for Information Technology. This new program will replace the Computer Network Technology and Computer Service Technology programs which will be discontinued in fall 2009 when PTE programs transfer from Boise State University to the College of Western Idaho. Faculty, current students and prospective students are excited about the proposed curriculum changes and new educational opportunities.

Revised 8/9/06

Page 2

Employment opportunities for IT professionals are strong and growing. According to the U.S. Department of Labor, Bureau of Labor Statistics, "rapid growth in IT jobs is projected over the 2004-2014 period." They further state that "there are many paths of entry to these occupations. Job prospects should be best for college graduates who are up to date with the latest skills and technologies; certifications and practical experience are essential...."

Idaho Department of Labor data indicates that jobs for IT professionals are projected to be among the 50 "Hot Jobs" for the Southwestern Region. EMSI (Economic Modeling Specialists Inc) lists three IT jobs among the "Top 25 Occupations in SW Idaho, 2005-2010." The need for skilled employees in the telecommunication field is especially critical.

The following table lists 2006 base jobs and 2013 projected jobs for IT Professionals within the State of Idaho and more specifically within Ada and Canyon counties, which are the College of Western Idaho's service area.

Base Data State of Idaho 2006	Projected Data State of Idaho 2013	Base Data Ada and Canyon Co 2006	Projected Data Ada and Canyon Co 2013
354	2,505	189	1,362

3. Briefly describe how the institution will ensure the quality of the program (e.g., accreditation, professional societies, licensing boards, etc.).

The quality and relevance of these IT program options will be assured by semi-annual Technical Advisory Committee meetings, annual Program Assessment reports, and by alignment with national professional certification standards (CompTIA, Cisco, Linux, Microsoft).

4. Identify similar programs offered within the state of Idaho or in the region by other colleges/universities. If the proposed request is similar to another program, provide a rationale for the duplication. This may not apply to PTE programs if workforce needs within the respective region have been established.

Although other institutions within the State of Idaho have Information Technology programs, none have exactly the same programs as College of Western Idaho plans to start.

5. Describe how this request is consistent with the State Board of Education's policy or role and mission of the institution. (i.e., centrality).

This request aligns with College of Western Idaho's mission to fulfill the PTE function in Southwest Idaho. The mission of the PTE division of CWI is to provide Education for Employment by being flexible, responsive, and market-driven. This request will provide expanded training for IT technicians in a technical career area with current and future needs.

6. Is the proposed program in the 8-year Plan? Indicate below.
   Yes X   No _____

These program options are listed on the 8-year plan as individual programs under Boise State University. The College of Western Idaho has chosen to initiate them as options to a new Information Technologies program for efficient use of college resources.

7. Resources--Faculty/Staff/Space Needs/Capital Outlay. (Use additional sheets if necessary.):

Through reorganization and reallocation of the Center for Information Technology faculty and budget resources, these new program options can be operated with no new staffing or fiscal impact.

Estimated Fiscal Impact	FY 2010	FY 2011	FY 2012	Total
A. Expenditures				
1. Personnel	543,182	543,182	543,182	1,629,546
2. Operating	29,000	29,000	29,000	87,000
3. Capital Outlay	15,000	12,000	12,000	39,000
4. Facilities	0	0	0	0
Paid by CWI General Fund				
TOTAL:	587,182	584,182	584,182	1,755,546

B. Source of Funds	FY 2010	FY 2011	FY 2012	Total
1. Appropriated-reallocation	587,182	584,182	584,182	1,755,546
2. Appropriated – New	0	0	0	0
3. Federal	0	0	0	0
4. Other:	CWI General Fund	CWI General Fund	CWI General Fund	CWI General Fund
TOTAL:	587,182	584,182	584,182	1,755,546
B. Nature of Funds				
1. Recurring *	587,182	584,182	584,182	1,755,546
2. Non-recurring **	NA	NA	NA	NA
TOTAL:	587,182	584,182	584,182	1,755,546

* **Recurring is defined as ongoing operating budget for the program, which will become part of the base.**
** **Non-recurring is defined as one-time funding in a fiscal year and not part of the base.**

This page was amended April 3, 2009.

Revised 7/99

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Information Technology Technician**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: 9   months

Degree/Certificate: **Technical Certificate**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	25
General Education Credits	9
Total Credits	34

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		1
Mathematics General Education	MATH GE		3		2
Total Semester Credits		25	9		

Electives credits required from the following:	Course Number	Technical Credits	General Education Credits	Code N = New C= Change (see Note 1)	Semester Sequence (See Note 2)
Program Credits		25	9		

TOTAL PROGRAM CREDITS   34

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

> **The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.**

2. **Courses Deleted from Program/Option: N/A**

3. **Courses Added to Program/Option: See below.**

4. **Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.**

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.

INTEC 110 INTRODUCTION TO PC HARDWARE AND SOFTWARE (3-3-4) (F/S). Overview of basic computer hardware and operating systems, including hands-on training in installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing, and preventive maintenance.

INTEC 114 NETWORK FUNDAMENTALS (3-3-4) (F/S). Introduction to the OSI reference model, network addressing, subnetting, TCP/IP network-layer protocols, LAN media and topology, and networking devices.

INTEC 118 CLIENT OPERATING SYSTEMS (3-3-4) (F/S). Hard disk management skills, system configuration, installation of operating systems and application software, and advanced use and configuration of graphical user interfaces. PRE/COREQ: INTEC 110.

INTEC 121 SERVER OPERATING SYSTEMS (3-3-4) (F/S). Planning, installing, and configuring network servers and clients in a server environment. Issues related to protocols, sharing, policies, migration, optimization, architecture, and administration. PRE/COREQ: INTEC 118.

INTEC 125 BASIC NETWORK ROUTING (3-3-4) (F/S). Routing theory, components, and protocols; router setup and startup; router configuration, control, and backup procedures. Includes building and troubleshooting simple LANs. PRE/COREQ: INTEC 114.

INTEC 129 FUNDAMENTALS OF LINUX (3-3-4) (F/S). Introduction to the Linux operating system with emphasis on basic administration tasks. PRE/COREQ: INTEC 121.

Program Outcomes:

1. Graduates will assemble and disassemble a computer, including identifying and configuring the correct hardware and software.

2. Graduates will troubleshoot hardware problems including problems with connections, configuration, drivers, and compatibility.

3. Graduates will install and troubleshoot operating systems including Microsoft and Linux operating systems.

4. Graduates will build a client server network including building cabling, configuring NICs, connecting network devices, and configuring the server.

5. Graduates will manage users and groups on workstations and servers, including permissions and security.

6. Graduates will manage network routers and switches, including basic configuration and monitoring.

7. Graduates will secure a workstation including passwords, permissions, security, anti-virus, and anti-spyware installation and configuration.

Program Outcomes Assessment:

1. Performance and written final examination on computer hardware to determine if students are mastering the course content at a satisfactory level

2. Performance and written final examination on operating systems to determine if students are mastering the course content at a satisfactory level

3. Performance and written final examination on networking to determine if students are mastering the course content at a satisfactory level

4. NET + certification examination (simulated) to determine if students are mastering the information and skills needed to obtain essential industry certifications

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Digital Home Technology Technician**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: 9 months

Degree/Certificate: **Technical Certificate**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	25
General Education Credits	9
Total Credits	34

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Home Network Configuration	INTEC 202	4		N	1
Audio/Video Configurations	INTEC 204	4		N	1
Telecommunications Installation and Configuration	INTEC 208	4		N	1
Security Systems Implementation	INTEC 211	4		N	2
Home Control Systems	INTEC 213	4		N	2
Troubleshooting Home Systems	INTEC 215	4		N	2
Communication General Education			3		1
Social Science General Education			3		1
Mathematics General Education			3		2

Total Semester Credits		25	9		
Electives __ **credits required from the following:**	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C = Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS __34__

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.

2. Courses Deleted from Program/Option: N/A

3. Courses Added to Program/Option: All; see below.

4. Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.
INTEC 202 HOME NETWORK CONFIGURATION (3-3-4) (F/S). Basic design concepts of electronic and digital home systems including configuration, integration, maintenance, and troubleshooting.

INTEC 204 AUDIO/VIDEO CONFIGURATIONS (3-3-4) (F/S). Home theater system components and characteristics; content management systems; and installation and configuration of multi-room audio/video systems. PRE/COREQ: INTEC 202.

INTEC 208 TELECOMMUNICATIONS INSTALLATION AND CONFIGURATION (3-3-4) (F/S). Fundamentals of telephone systems, including delivery and troubleshooting of POTS and VoIP communication. PRE/COREQ: INTEC 204.

INTEC 211 SECURITY SYSTEMS IMPLEMENTATION (3-3-4) (F/S). Identification, configuration, installation, maintenance, and troubleshooting of security and surveillance systems. PRE/COREQ: INTEC 202.

INTEC 213 HOME CONTROL SYSTEMS (3-3-4) (F/S). Integration of control sub-systems into HVAC, lighting systems, and protection devices. PRE/COREQ: INTEC 211.

INTEC 215 TROUBLESHOOTING HOME SYSTEMS (3-3-4) (F/S). Troubleshooting and diagnosis of integrated sub-systems. PRE/COREQ: INTEC 213.

Program Outcomes:

1. Graduates will demonstrate consistent attendance and lab housekeeping practices
2. Graduates will apply ESD and tool safety practices
3. Graduates will exhibit professional customer service skills
4. Graduates will differentiate between AC/DC home circuits
5. Graduates will plan and implement home network configurations
6. Graduates will design and install home theater systems
7. Graduates will configure and implement various telephony systems
8. Graduates will create a security topology and build the home security system
9. Graduates will design and implement low voltage controller operations
10. Graduates will troubleshoot and repair home control systems

Program Outcomes Assessment:

1. Daily attendance collection and random lab housekeeping checks to determine if students are developing work ethics needed for future job placement
2. Students will achieve a passing grade of 70% or better on written tests administered by a subject matter expert to determine if students are mastering the course content at a satisfactory level
3. Students will achieve a passing grade of 70% or better on hands–on practical exams administered by a subject matter expert to determine if students are mastering application of the course content at a satisfactory level
4. Students will obtain employment in their field of training and maintain the job for at least six months as shown by the EMSS Records' follow-up report To determine if the scope of the program is meeting employer's needs

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/PC and Document Imaging Technician**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **9**   months

Degree/Certificate: **Technical Certificate**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	25
General Education Credits	9
Total Credits	34

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Technical Fundamentals	INTEC 218	4		N	1
Electromechanical Process Technologies	INTEC 220	4		N	1
Advanced Printer Hardware Service	INTEC 222	4		N	1
Digital Technologies	INTEC 225	4		N	2
Advanced Digital Technologies	INTEC 227	4		N	2
Document Imaging Architect	INTEC 229	4		N	2
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		1
Mathematics General Education	MATH GE		3		2

| Total Semester Credits | | 25 | 9 | | |

Electives _____ credits required from the following:	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (see Note 1)	Semester Sequence (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS   34

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: College of Western Idaho

Program/Option Title: Information Technologies/PC and Document Imaging Technician

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: 18 months

Degree/Certificate: Advanced Technical Certificate

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	49
General Education Credits	9
Total Credits	58

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	3
Network Fundamentals	INTEC 114	4		N	3
Client Operating Systems	INTEC 118	4		N	3
Server Operating Systems	INTEC 121	4		N	4
Basic Network Routing	INTEC 125	4		N	4
Fundamentals of Linux	INTEC 129	4		N	4
Technical Fundamentals	INTEC 218	4		N	1

		Technical Credits	General Education Credits	Code	Semester Sequence
Electromechanical Process Technologies	INTEC 220	4		N	1
Advanced Printer Hardware Service	INTEC 222	4		N	1
Digital Technologies	INTEC 225	4		N	2
Advanced Digital Technologies	INTEC 227	4		N	2
Document Imaging Architect	INTEC 229	4		N	2
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		2
Mathematics General Education	MATH GE		3		3
Total Semester Credits		49	9		
Electives __ credits required from the following:	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C = Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS 58 _____

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/PC and Document Imaging Technician**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18**   months

Degree/Certificate: **Associate of Applied Science degree**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	49
General Education Credits	16
Total Credits	65

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Technical Fundamentals	INTEC 218	4		N	1
Electromechanical Process Technologies	INTEC 220	4		N	1
Advanced Printer Hardware Service	INTEC 222	4		N	1
Digital Technologies	INTEC 225	4		N	2
Advanced Digital Technologies	INTEC 227	4		N	2
Document Imaging Architect	INTEC 229	4		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	3

Network Fundamentals	INTEC 114	4		N	3
Client Operating Systems	INTEC 118	4		N	3
Server Operating Systems	INTEC 121	4		N	4
Basic Network Routing	INTEC 125	4		N	4
Fundamentals of Linux	INTEC 129	4		N	4
Fundamentals of Oral Communication	COMM 101		3		1
English Composition	ENGL 101		3		2
Any General Education Mathematics Course	MATH GE		3		3
Any General Education Social Science Course	SOCS GE		3		3
Any Additional General Education Course	ELEC GE		4		4
Total Semester Credits		49	16		
Electives **____ credits required from the following:**	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C = Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS 65

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.

2. **Courses Deleted from Program/Option:**   N/A

3. **Courses Added to Program/Option: All; see below.**

4. **Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.**

      See below.

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.

INTEC 110 INTRODUCTION TO PC HARDWARE AND SOFTWARE (3-3-4) (F/S). Overview of basic computer hardware and operating systems, including hands-on training in installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing, and preventive maintenance.

INTEC 114 NETWORK FUNDAMENTALS (3-3-4) (F/S). Introduction to the OSI reference model, network addressing, subnetting, TCP/IP network-layer protocols, LAN media and topology, and networking devices.

INTEC 118 CLIENT OPERATING SYSTEMS (3-3-4) (F/S). Hard disk management skills, system configuration, installation of operating systems and application software, and advanced use and configuration of graphical user interfaces. PRE/COREQ: INTEC 110.

INTEC 121 SERVER OPERATING SYSTEMS (3-3-4) (F/S). Planning, installing, and configuring network servers and clients in a server environment. Issues related to protocols, sharing, policies, migration, optimization, architecture, and administration. PRE/COREQ: INTEC 118.

INTEC 125 BASIC NETWORK ROUTING (3-3-4) (F/S). Routing theory, components, and protocols; router setup and startup; router configuration, control, and backup procedures. Includes building and troubleshooting simple LANs. PRE/COREQ: INTEC 114.

INTEC 129 FUNDAMENTALS OF LINUX (3-3-4) (F/S). Introduction to the Linux operating system with emphasis on basic administration tasks. PRE/COREQ: INTEC 121.

INTEC 218 TECHNICAL FUNDAMENTALS (3-3-4) (F/S). Fundamentals of electronic repair including safety, ESD procedures, industry tools and usage, and DC/AC circuit applications for electromechanical devices.

INTEC 220 ELECTROMECHANICAL PROCESS TECHNOLOGIES (3-3-4) (F/S). Electromechanical systems, adjustments, and interaction between processes. Identification, troubleshooting, and repair of components and processes in PCs and printing systems. PRE/COREQ: INTEC 218.

INTEC 222 ADVANCED PRINTER HARDWARE SERVICE (3-3-4) (F/S). Installation, configuration, and repair of desktop and network printing devices, including interfacing techniques, printer language, drivers, and utilities. PRE/COREQ: INTEC 220.

INTEC 225 DIGITAL TECHNOLOGIES (3-3-4) (F/S). Configuration, maintenance, and repair of enterprise multifunction printers and copiers. Image adjustment, color process, and troubleshooting of MFPs. PRE/COREQ: INTEC 222.

INTEC 227 ADVANCED DIGITAL TECHNOLOGIES (3-3-4) (F/S). Complementary MFP accessories, stand alone products such as scanners, and associated software. Print management software and utilities, scan and fax routing software, and network configuration. PRE/COREQ: INTEC 225.

INTEC 229 DOCUMENT IMAGING ARCHITECT (3-3-4) (F/S). Design and implementation of solutions for the capture, storage, retrieval, and manipulation of office documents based on laws and regulations governing the document imaging industry. PRE/COREQ: INTEC 227.

Program Outcomes:

1. Graduates will demonstrate service call procedural skills.

2. Graduates will demonstrate ability to read and complete complex instructions.

3. Graduates will demonstrate entry-level mechanical troubleshooting skills on computers and peripherals.

4. Graduates will demonstrate entry-level electrical troubleshooting skills on computers and peripherals.

5. Graduates will demonstrate entry-level network troubleshooting skills.

6. Graduates will demonstrate and practice high voltage, low voltage and ESD safety skills.

7. Graduates will install, utilize and update document imaging software.

8. Graduates will practice taking industry-recognized PDI+ (Printing and Document Imaging) simulated certification exam.

Program Outcomes Assessment:

1. Customer-service role playing to determine students' attainment of essential customer service skills

2. Hands-on skills assessments performed at 70% level or better to determine if students are mastering application of the course content at a satisfactory level

3. T/F, multiple-choice, short answer written and computer-based assessments completed at 70% level or better to determine if students are mastering the course content at a satisfactory level

4. Simulated industry-recognized certification exam to determine if students are mastering the information and skills needed to obtain essential industry certifications

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Information Security and Forensics**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18**   months

Degree/Certificate: **Advanced Technical Certificate**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	**49**
General Education Credits	**9**
Total Credits	**58**

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2

	Course Number	Technical Credits	General Education Credits	Code N=New C=Change	Semester Sequence
Directory Services Infrastructure	INTEC 246	4		N	3
Fundamentals of Network Security	INTEC 248	4		N	3
Advanced Network Security	INTEC 250	4		N	3
Intrusion Detection Systems	INTEC 253	4		N	4
Ethical Hacking and Countermeasures	INTEC 255	4		N	4
Digital Forensics	INTEC 259	4		N	4
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		2
Mathematics General Education	MATH GE		3		3
Total Semester Credits		49	9		
Electives credits required from the following:	Course Number	Technical Credits	General Education Credits	Code N=New C=Change (see Note 1)	Semester Sequence (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS __58__

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Information Security and Forensics**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18** months

Degree/Certificate: **Associate of Applied Science degree**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	**49**
General Education Credits	**16**
Total Credits	**65**

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2
Directory Services Infrastructure	INTEC 246	4		N	3
Fundamentals of Network Security	INTEC 248	4		N	3

Advanced Network Security	INTEC 250	4		N	3
Intrusion Detection Systems	INTEC 253	4		N	4
Ethical Hacking and Countermeasures	INTEC 255	4		N	4
Digital Forensics	INTEC 259	4		N	4
Fundamentals of Oral Communication	COMM 101		3		1
English Composition	ENGL 101		3		2
Any General Education Mathematics Course	MATH GE		3		3
Any General Education Social Science Course	SOCS GE		3		3
Any Additional General Education Course	ELEC GE		4		4
Total Semester Credits		49	16		
Electives __ credits required from the following:	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C= Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS   65

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.

2. **Courses Deleted from Program/Option: N/A**

3. Courses Added to Program/Option: All; see below.

4. Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.
See below.

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.

INTEC 110 INTRODUCTION TO PC HARDWARE AND SOFTWARE (3-3-4) (F/S). Overview of basic computer hardware and operating systems, including hands-on training in installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing, and preventive maintenance.

INTEC 114 NETWORK FUNDAMENTALS (3-3-4) (F/S). Introduction to the OSI reference model, network addressing, subnetting, TCP/IP network-layer protocols, LAN media and topology, and networking devices.

INTEC 118 CLIENT OPERATING SYSTEMS (3-3-4) (F/S). Hard disk management skills, system configuration, installation of operating systems and application software, and advanced use and configuration of graphical user interfaces. PRE/COREQ: INTEC 110.

INTEC 121 SERVER OPERATING SYSTEMS (3-3-4) (F/S). Planning, installing, and configuring network servers and clients in a server environment. Issues related to protocols, sharing, policies, migration, optimization, architecture, and administration. PRE/COREQ: INTEC 118.

INTEC 125 BASIC NETWORK ROUTING (3-3-4) (F/S). Routing theory, components, and protocols; router setup and startup; router configuration, control, and backup procedures. Includes building and troubleshooting simple LANs. PRE/COREQ: INTEC 114.

INTEC 129 FUNDAMENTALS OF LINUX (3-3-4) (F/S). Introduction to the Linux operating system with emphasis on basic administration tasks. PRE/COREQ: INTEC 121.

INTEC 218 TECHNICAL FUNDAMENTALS (3-3-4) (F/S). Fundamentals of electronic repair including safety, ESD procedures, industry tools and usage, and DC/AC circuit applications for electromechanical devices.

INTEC 246 DIRECTORY SERVICES INFRASTRUCTURE (3-3-4) (F/S). Implementing, troubleshooting, and maintaining a network infrastructure in a Directory Services environment. PREREQ: INTEC 121.

INTEC 248 FUNDAMENTALS OF NETWORK SECURITY (3-3-4) (F/S). Key security concepts including security threats, securing network resources, encryption technologies, securing communications and applications, and incident response. PRE/COREQ: INTEC 246.

INTEC 250 ADVANCED NETWORK SECURITY (3-3-4) (F/S). Designing a security framework for small, medium, and enterprise level networks. PRE/COREQ: INTEC 248.

INTEC 253 INTRUSION DETECTION SYSTEMS (3-3-4) (F/S). Developing and deploying intrusion detection systems in small, medium, and enterprise level networks. PRE/COREQ: INTEC 250.

INTEC 255 ETHICAL HACKING AND COUNTERMEASURES (3-3-4) (F/S). Identifying weaknesses and vulnerabilities in target network systems and applying the information to defend against network attacks. PRE/COREQ: INTEC 253.

INTEC 259 DIGITAL FORENSICS (3-3-4) (F/S). Forensic methods and techniques in the collection, processing, and analysis of digital evidence. PRE/COREQ: INTEC 255.

Program Outcomes:

1. Graduates will install, configure and maintain a directory services infrastructure including building sites and establishing a secure connection between sites.

2. Graduates will define the 10 security domains and how they impact internet and intranet infrastructures

3. Graduates will design and implement a fully secure network infrastructure including technologies such as EFS, IPSEC and SSL.

4. Graduates will develop, configure and maintain host-based and network-based intrusion detection systems within a LAN/WAN network infrastructure.

5. Graduates will leverage a full penetration test on an internal and external network and implement appropriate countermeasures to "found" vulnerabilities.

6. Graduates will recognize criminal activity in a computing environment and develop/implement a forensic first-response protocol resulting in successful prosecution of the criminal.

Program Outcomes Assessment:

1. Students will achieve a passing grade of 70% or better on written tests administered by a subject matter expert to determine if students are mastering the course content at a satisfactory level

2. Students will achieve a passing grade of 70% or better on hands–on practical exams administered by a subject matter expert to determine if students are mastering application of the course content at a satisfactory level

3. Students will pass at least one security-related industry certification exam to determine if students are mastering the information and skills needed to obtain essential industry certifications

4. Students will obtain employment in their field of training and maintain the job for at least six months as shown by the EMSS Records' follow-up report To determine if the scope of the program is meeting employer's needs

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Internetworking and Communication Technolog**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18**   months

Degree/Certificate: **Advanced Technical Certificate**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	**49**
General Education Credits	**9**
Total Credits	**58**

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2

				Code N = New C= Change (see Note 1)	
Switching Basics and Intermediate Routing	INTEC 232	4		N	3
WAN Technologies	INTEC 234	4		N	3
Building Scalable Networks	INTEC 236	4		N	3
Implementing Secure Converged WANs	INTEC 239	4		N	4
Fundamentals of Wireless LANs	INTEC 241	4		N	4
Introduction to VoIP	INTEC 243	4		N	4
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		2
Mathematics General Education	MATH GE		3		3
Total Semester Credits		49	9		
Electives credits required from the following:	Course Number	Technical Credits	General Education Credits	Code N = New C= Change (see Note 1)	Semester Sequence (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS 58

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Internetworking and Communication Technolog**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18**_____ months

Degree/Certificate: **Associate of Applied Science degree**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary: **Technical Credits** | **49** |

                       General Education Credits | **16** |

                       Total Credits | **65** |

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2
Switching Basics and Intermediate Routing	INTEC 232	4		N	3
WAN Technologies	INTEC 234	4		N	3

	Course Number	Technical Credits	General Education Credits	Code N=New C=Change (see Note 1)	Semester Sequence (See Note 2)
Building Scalable Networks	INTEC 236	4		N	3
Implementing Secure Converged WANs	INTEC 239	4		N	4
Fundamentals of Wireless LANs	INTEC 241	4		N	4
Introduction to VoIP	INTEC 243	4		N	4
Fundamentals of Oral Communication	COMM 101		3		1
English Composition	ENGL 101		3		2
Any General Education Mathematics Course	MATH GE		3		3
Any General Education Social Science Course	SOCS GE		3		3
Any Additional General Education Course	ELEC GE		4		4
Total Semester Credits		49	16		
Electives credits required from the following:	Course Number	Technical Credits	General Education Credits	Code N = New C= Change (see Note 1)	Semester Sequence (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS   65

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.

2. Courses Deleted from Program/Option: N/A

3. Courses Added to Program/Option: All; see below.

4. Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.

See below.

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.

INTEC 110 INTRODUCTION TO PC HARDWARE AND SOFTWARE (3-3-4) (F/S). Overview of basic computer hardware and operating systems, including hands-on training in installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing, and preventive maintenance.

INTEC 114 NETWORK FUNDAMENTALS (3-3-4) (F/S). Introduction to the OSI reference model, network addressing, subnetting, TCP/IP network-layer protocols, LAN media and topology, and networking devices.

INTEC 118 CLIENT OPERATING SYSTEMS (3-3-4) (F/S). Hard disk management skills, system configuration, installation of operating systems and application software, and advanced use and configuration of graphical user interfaces. PRE/COREQ: INTEC 110.

INTEC 121 SERVER OPERATING SYSTEMS (3-3-4) (F/S). Planning, installing, and configuring network servers and clients in a server environment. Issues related to protocols, sharing, policies, migration, optimization, architecture, and administration. PRE/COREQ: INTEC 118.

INTEC 125 BASIC NETWORK ROUTING (3-3-4) (F/S). Routing theory, components, and protocols; router setup and startup; router configuration, control, and backup procedures. Includes building and troubleshooting simple LANs. PRE/COREQ: INTEC 114.

INTEC 129 FUNDAMENTALS OF LINUX (3-3-4) (F/S). Introduction to the Linux operating system with emphasis on basic administration tasks. PRE/COREQ: INTEC 121.

INTEC 232 SWITCHING BASICS AND INTERMEDIATE ROUTING (3-3-4) (F/S). Advanced IP addressing, intermediate routing protocols, and the command-line interface configuration of switches. Ethernet switching, VLANs, STP, and VTP. PREREQ: INTEC 125.

INTEC 234 WAN TECHNOLOGIES (3-3-4) (F/S). Advanced IP addressing, NAT, PAT, DHCP, WAN technology and terminology, and network management. Configuration of PPP, ISDN, DDR, and frame relay protocols. PRE/COREQ: INTEC 232.

INTEC 236 BUILDING SCALABLE NETWORKS (3-3-4) (F/S). Designing efficient and expandable enterprise networks. Installation, configuration, monitoring, and troubleshooting of network infrastructure equipment including configuration of EIGRP, OSPF, IS-IS, and BGRP. Manipulation and optimization of routing updates. Multicast routing, IPv6, and DHCP configuration. PRE/COREQ: INTEC 234.

INTEC 239 IMPLEMENTING SECURE CONVERGED WANs (3-3-4) (F/S). Securing and expanding the reach of an enterprise network with focus on VPNs. Implementing broadband connections for tele-workers and aligning network architecture with connectivity requirements using MPLS. Configuring site-to-site IPSec VPNs, device hardening strategies, and IOS firewall features. PRE/COREQ: INTEC 236.

INTEC 241 FUNDAMENTALS OF WIRELESS LANs (3-3-4) (F/S). Design, implementation, operation, and troubleshooting of wireless networks. PRE/COREQ: INTEC 234.

INTEC 243 INTRODUCTION TO VoIP (3-3-4) (F/S). Configuration of VoIP devices using CallManager Express architecture including VoIP and QoS technologies. PRE/COREQ: INTEC 234.

Program Outcomes:

1. Graduates will configure, verify, and troubleshoot VLANs, trunking on Cisco switches, interVLAN routing, VTP, and RSTP.

2. Graduates will configure, verify, monitor, and troubleshoot DHCP, DNS, ACL's, NAT, and Frame Relay on Cisco routers.

3. Graduates will create an efficient and expandable enterprise network by installing, configuring, monitoring, and troubleshooting network infrastructure equipment using EIGRP, OSPF, IS-IS, and BGP routing protocols and manipulate and optimize routing updates between these routing protocols

4. Graduates will learn how to secure and expand the reach of an enterprise network with focus on VPN configuration and securing network access.

5. Graduates will install, configure, verify, administer, monitor, and troubleshoot enterprise-class wireless LANs.

6. Graduates will install and configure Cisco CallManager Express (CME) architecture, components, functionality, and features using some Voice over IP (VOIP) and Quality of Service (QoS) technologies and apply them to Cisco's CME environment.

Program Outcomes Assessment:

1. Students will achieve a passing grade of 70% or better on a written test administered by a subject matter expert to determine if students are mastering the course content at a satisfactory level

2. Students will achieve a passing grade of 70% or better on a practical exam administered by a subject matter expert to determine if students are mastering the course content at a satisfactory level

3. Students will pass the CCNA certification exam, an industry-recognized certification test to determine if students are mastering the information and skills needed to obtain essential industry certifications

4. Students will obtain employment in their field of training and maintain the job for at least six months to determine if the scope of the program is meeting employer's needs

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Network Administration**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18**   months

Degree/Certificate: **Advanced Technical Certificate**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	49
General Education Credits	9
Total Credits	58

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2

	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (see Note 1)	Semester Sequence (See Note 2)
Directory Services Infrastructure	INTEC 246	4		N	3
Maintaining E-mail Systems	INTEC 264	4		N	3
Database Administration	INTEC 266	4		N	3
Network Monitoring	INTEC 271	4		N	4
Network Control	INTEC 273	4		N	4
Remote Network Management	INTEC 275	4		N	4
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		2
Mathematics General Education	MATH GE		3		3
Total Semester Credits		49	9		
Electives ___ credits required from the following:	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C = Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS 58

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: **College of Western Idaho**

Program/Option Title: **Information Technologies/Network Administration**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: **18**   months

Degree/Certificate: **Associate of Applied Science degree**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary: **Technical Credits** | **49** |

General Education Credits | **16** |

Total Credits | **65** |

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2
Directory Services Infrastructure	INTEC 246	4		N	3
Maintaining E-mail Systems	INTEC 264	4		N	3

		Technical Credits	General Education Credits	Code	Semester Sequence
Database Administration	INTEC 266	4		N	3
Network Monitoring	INTEC 271	4		N	4
Network Control	INTEC 273	4		N	4
Remote Network Management	INTEC 275	4		N	4
Fundamentals of Oral Communication	COMM 101		3		1
English Composition	ENGL 101		3		2
Any General Education Mathematics Course	MATH GE		3		3
Any General Education Social Science Course	SOCS GE		3		3
Any Additional General Education Course	ELEC GE		4		4
Total Semester Credits		49	16		
Electives credits required from the following:	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C = Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS   65

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

> The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.

2. **Courses Deleted from Program/Option: N/A**

3. Courses Added to Program/Option: All; see below.

4. Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.

   See below.

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.

INTEC 110 INTRODUCTION TO PC HARDWARE AND SOFTWARE (3-3-4) (F/S). Overview of basic computer hardware and operating systems, including hands-on training in installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing, and preventive maintenance.

INTEC 114 NETWORK FUNDAMENTALS (3-3-4) (F/S). Introduction to the OSI reference model, network addressing, subnetting, TCP/IP network-layer protocols, LAN media and topology, and networking devices.

INTEC 118 CLIENT OPERATING SYSTEMS (3-3-4) (F/S). Hard disk management skills, system configuration, installation of operating systems and application software, and advanced use and configuration of graphical user interfaces. PRE/COREQ: INTEC 110.

INTEC 121 SERVER OPERATING SYSTEMS (3-3-4) (F/S). Planning, installing, and configuring network servers and clients in a server environment. Issues related to protocols, sharing, policies, migration, optimization, architecture, and administration. PRE/COREQ: INTEC 118.

INTEC 125 BASIC NETWORK ROUTING (3-3-4) (F/S). Routing theory, components, and protocols; router setup and startup; router configuration, control, and backup procedures. Includes building and troubleshooting simple LANs. PRE/COREQ: INTEC 114.

INTEC 129 FUNDAMENTALS OF LINUX (3-3-4) (F/S). Introduction to the Linux operating system with emphasis on basic administration tasks. PRE/COREQ: INTEC 121.

INTEC 246 DIRECTORY SERVICES INFRASTRUCTURE (3-3-4) (F/S). Implementing, troubleshooting, and maintaining a network infrastructure in a Directory Services environment. PREREQ: INTEC 121.

INTEC 264 MAINTAINING E-MAIL SYSTEMS (3-3-4) (F/S). Implementing, troubleshooting, and maintaining e-mail systems in a Directory Services environment. PRE/COREQ: INTEC 246.

INTEC 266 DATABASE ADMINISTRATION (3-3-4) (F/S). Implementing, troubleshooting, and administering databases in a Directory Services environment. PRE/COREQ: INTEC 246.

INTEC 271 NETWORK MONITORING (3-3-4) (F/S). Implementing, troubleshooting, and monitoring network devices in a Directory Services environment. PRE/COREQ: INTEC 246.

INTEC 273 NETWORK CONTROL (3-3-4) (F/S). Managing, troubleshooting, and maintaining servers and client systems in a Directory Services environment. PRE/COREQ: INTEC 271.

INTEC 275 REMOTE NETWORK MANAGEMENT (3-3-4) (F/S). Remote implementation, troubleshooting, and maintenance of servers and client systems in a Directory Services environment. PRE/COREQ: INTEC 273.

Program Outcomes:

1. Graduates will install, configure and troubleshoot directory services and necessary infrastructure.

2. Graduates will install, configure, maintain and troubleshoot a secure email messaging system and client.

3. Graduates will install, configure, maintain and troubleshoot a database system

4. Graduates will implement a network monitoring system

5. Graduates will implement, maintain and troubleshoot a network management system.

Program Outcomes Assessment:

1. Students will achieve a passing grade of 70% or better on written tests administered by a subject matter expert to determine if students are mastering the course content at a satisfactory level

2. Students will achieve a passing grade of 70% or better on hands-on practical exams administered by a subject matter expert to determine if students are mastering the application of course content at a satisfactory level

3. Students will pass at least one industry standard networking certification test to determine if students are mastering the information and skills needed to obtain essential industry certifications

4. Students will obtain employment in their field of training and maintain the job for at least six months as shown by the EMSS Records' follow-up report to determine if the scope of the program is meeting employer's needs

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution: College of Western Idaho

Program/Option Title: Information Technologies/Web Development

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length: 18 months

Degree/Certificate: Advanced Technical Certificate

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	49
General Education Credits	9
Total Credits	58

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2

Course	Course Number	Technical Credits	General Education Credits	Code N=New C=Change	Semester Sequence
Principles of Web Scripting Languages	INTEC 278	4		N	
Web Graphics and Multimedia	INTEC 280	4		N	
Web Authoring in an Integrated Development Environment	INTEC 282	4		N	
Fundamentals of Database Systems	INTEC 285	4		N	
Dynamic Web Site Creation and Design	INTEC 287	4		N	
Web Hosting and Collaborative Development	INTEC 289	4		N	
Communication General Education	COMM 101		3		1
Social Science General Education	SOCS GE		3		2
Mathematics General Education	MATH GE		3		3
Total Semester Credits		49	9		

Electives __ credits required from the following:	**Course Number**	**Technical Credits**	**General Education Credits**	**Code** N = New C= Change (see Note 1)	**Semester Sequence** (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS   58

ATTACHMENT B: SUMMARY OF COURSE CHANGES

Please submit a separate Attachment B for each option, degree or certificate if more than one is proposed or affected by the change.

Institution:　　　　　**College of Western Idaho**

Program/Option Title:　　**Information Technologies/Web Development**

Insert Program Name/Option Title (i.e. Business Technologies/Marketing and Management)

Program/Option Length:　**18**　　　months

Degree/Certificate:　　**Associate of Applied Science degree**

If a Certificate, indicate type (i.e. Technical, Advanced Technical or Postsecondary Technical)

Credit Summary:

Technical Credits	49
General Education Credits	16
Total Credits	65

Recommended Program Scope and Sequence

Course Title	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (See Note 1)	Semester Sequence (See Note 2)
Customer Support	INTEC 105	1		N	2
Introduction to PC Hardware and Software	INTEC 110	4		N	1
Network Fundamentals	INTEC 114	4		N	1
Client Operating Systems	INTEC 118	4		N	1
Server Operating Systems	INTEC 121	4		N	2
Basic Network Routing	INTEC 125	4		N	2
Fundamentals of Linux	INTEC 129	4		N	2
Principles of Web Scripting Languages	INTEC 278	4		N	
Web Graphics and Multimedia	INTEC 280	4		N	

Web Authoring in an Integrated Development Environment	INTEC 282	4		N	
Fundamentals of Database Systems	INTEC 285	4		N	
Dynamic Web Site Creation and Design	INTEC 287	4		N	
Web Hosting and Collaborative Development	INTEC 289	4		N	
Fundamentals of Oral Communication	COMM 101		3		1
English Composition	ENGL 101		3		2
Any General Education Mathematics Course	MATH GE		3		3
Any General Education Social Science Course	SOCS GE		3		3
Any Additional General Education Course	ELEC GE		4		4
Total Semester Credits		49	16		

Electives ___ credits required from the following:	Course Number	Technical Credits	General Education Credits	Code N = New C = Change (see Note 1)	Semester Sequence (See Note 2)
Program Credits					

TOTAL PROGRAM CREDITS   65

Note 1: Enter an "N" for each new course. This only includes courses that have not been offered before at this institution. If the course has previously been approved and is new to this program, do not code as a new course. Enter a "C" for each course that has been changed. This includes courses that have different credit hours, competencies, or other substantial modifications as originally approved.

Note 2: Enter the semester in which the course is recommended in the program sequence.

1. Describe the impact this change will have on students currently enrolled in the existing program.

> **The currently enrolled students will be graduated from the existing program within which they enrolled; they have been offered the opportunity to transition to the new program if they wish and course equivalencies will be determined.**

2. Courses Deleted from Program/Option: N/A

3. Courses Added to Program/Option: All; see below.

4. Attach New ("N") or Changed ("C") course descriptions and Program/Option competencies.

   See below.

INTEC 105 CUSTOMER SUPPORT (1-0-1) (F/S). Effective communication with non-technical end-users in technical support, technical marketing, and customer relations contexts.

INTEC 110 INTRODUCTION TO PC HARDWARE AND SOFTWARE (3-3-4) (F/S). Overview of basic computer hardware and operating systems, including hands-on training in installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing, and preventive maintenance.

INTEC 114 NETWORK FUNDAMENTALS (3-3-4) (F/S). Introduction to the OSI reference model, network addressing, subnetting, TCP/IP network-layer protocols, LAN media and topology, and networking devices.

INTEC 118 CLIENT OPERATING SYSTEMS (3-3-4) (F/S). Hard disk management skills, system configuration, installation of operating systems and application software, and advanced use and configuration of graphical user interfaces. PRE/COREQ: INTEC 110.

INTEC 121 SERVER OPERATING SYSTEMS (3-3-4) (F/S). Planning, installing, and configuring network servers and clients in a server environment. Issues related to protocols, sharing, policies, migration, optimization, architecture, and administration. PRE/COREQ: INTEC 118.

INTEC 125 BASIC NETWORK ROUTING (3-3-4) (F/S). Routing theory, components, and protocols; router setup and startup; router configuration, control, and backup procedures. Includes building and troubleshooting simple LANs. PRE/COREQ: INTEC 114.

INTEC 129 FUNDAMENTALS OF LINUX (3-3-4) (F/S). Introduction to the Linux operating system with emphasis on basic administration tasks. PRE/COREQ: INTEC 121.

INTEC 278 PRINCIPLES OF WEB SCRIPTING LANGUAGES (3-3-4) (F/S). HTML, Java Script menu design and session information, CSS, and the design, creation, and usage of XML schema. PREREQ: INTEC 121, INTEC 125, and INTEC 129.

INTEC 280 WEB GRAPHICS AND MULTIMEDIA (3-3-4) (F/S). Creating presentation quality animations, photographs, icons, and graphics suitable for web deployment using popular software tools. PRE/COREQ: INTEC 278.

INTEC 282 WEB AUTHORING IN AN INTEGRATED DEVELOPMENT ENVIRONMENT (3-3-4) (F/S). Creating, editing, importing, and exporting CSS based web sites using WYSIWYG authoring tools. Designing and implementing web sites and web pages using images and animations created in previous courses. Maintaining remote web sites using FTP and WEBDAV. PRE/COREQ: INTEC 280.

INTEC 285 FUNDAMENTALS OF DATABASE SYSTEMS (3-3-4) (F/S). Relational database design and data modeling from a conceptual and practical viewpoint. Intermediate SQL language syntax, query design, and database normalization. Data security concepts and integrity with an introduction to query optimization. PRE/COREQ: INTEC 282.

INTEC 287 DYNAMIC WEB SITE CREATION AND DESIGN (3-3-4) (F/S). Exploring dynamic web

sites focusing on e-commerce and server side scripting languages. Course serves as a capstone to previous web development coursework and concepts. PRE/COREQ: INTEC 285.

INTEC 289 WEB HOSTING AND COLLABORATIVE DEVELOPMENT (3-3-4) (F/S). Introduction to industry standard web servers, collaborative tools, and project management. Preparation for workforce entry.

Program Outcomes:

1. Graduates will employ industry standard practices in the coding, design, and development of web pages.
2. Graduates will create and implement presentation quality graphics, animations, and images to enhance website functionality and design.
3. Graduates will utilize industry standard WYSIWIG authoring tools in the creation and deployment of websites.
4. Graduates will use correct data modeling practices to develop databases designed for web commerce.
5. Graduates will develop dynamic websites utilizing industry standard scripting languages for database interaction.
6. Graduates will configure and deploy industry standard web servers.

Program Outcomes Assessment:

1. Students will achieve a passing grade of 70% or higher on written exams administered by the instructor covering database modeling, design, queries, and normalization to determine if students are mastering the course content at a satisfactory level
2. Students will complete project-based web development performance exams utilizing industry standard web servers, software, and practices with a score of 70% or higher to demonstrate that students' skill mastery and comprehensive retention are satisfactory
3. Students will obtain industry experience through internship or employment during the course of the program or within 6 months of graduation to verify if the scope of the program is meeting employer's needs
4. Students will pass at least one industry-standard networking or web-related certification test to establish whether students are mastering the information and skills needed to achieve industry-standard certifications

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