

Revised 7/23/07

PROPOSAL SUMMARY AND ROUTING FORM

Proposal Title: CNS Curriculum Modification

Initiating Unit or Individual: CNS Program Faculty

Contact Person's Name: Ron Mehringer e-mail: mehrinr@ferris.edu phone: X3064

Date or Term of Proposal Implementation: Fall 2010

- Group I - A – New degree/major or major, redirection of a current offering, or elimination of a degree, major or minor
- Group I - B – New minors or concentrations
- Group II - A – Minor curriculum clean-up and course changes
- Group II - B – New Course
- Group III - Certificates
- Group IV – Off-Campus Programs

Group/Individual	Signature	Date	Vote/Action *
Program Faculty	<i>Ron Mehringer</i>	11/17/09	6 Support 2 Support with Concerns 0 Not Support
Program Coordinator	<i>Mary D. Stabin</i>	11/18/09	X Support Support with Concerns Not Support
School Curriculum Committee	<i>Thomas Haller</i>	11/25/09	6 Support Support with Concerns 0 Not Support
School Director			Support Support with Concerns Not Support
College Curriculum Committee	<i>Ron McLean</i>	1/14/10	12 Support Support with Concerns Not Support
Dean	<i>Thomas E. ...</i>	1/19/10	Support Support with Concerns Not Support
University Curriculum Committee	<i>[Signature]</i>	2/15/10	✓ Support 80 Support with Concerns Not Support
Senate	<i>Richard Stiffen/ph</i>	2/15/10	✓ Support Support with Concerns Not Support
Academic Affairs	<i>Donald Flecken</i>	2/15/10	✓ Support Support with Concerns Not Support

* Support with Concerns or Not Support must include a list of specific concerns. Votes must be shown for faculty groups. Administrators check appropriate action taken.

To be completed by Academic Affairs		
President (Date Approved)	Board of Trustees (Date Approved)	President's Council (Date Approved)

VPAA

FEB 15 2010

PROVOST

Support with concerns comments:

Gareth Todd, Assistant Professor, EET and CNS

I support the changes to the CNS curriculum WITH concerns. My primary concern is with the MATH 226 requirement. As I discussed in our meeting, the removal of this requirement will preclude CNS from attaining TAC-ABET accreditation. I think it is important for ALL of our programs to strive for accreditation and not distance ourselves from it. Since CNS is not eligible to apply for EAC-ABET (due to the lack of Ph.D.'s), the only avenue is to go through TAC which would be fairly easy with the MATH 226 requirement.

Luiz Costa, Assistant Professor, EET and CNS

The reason I'm supporting with reservations the curricular changes for CNS is: The reduction of math credits and the removal of wireless communications class may reduce the students to be accepted for graduate programs and for CNS to be accredited by certain accreditation organizations we and our students have been talking about.

1. Proposal Summary

This proposal describes changes to the CNS (Computer, Networks and Systems) curriculum that are a result of changes in course content and student considerations. The proposed changes are listed as follows:

1. Remove MATH-226 as a required course. This course is not needed as a prerequisite for any required course in the CNS curriculum. It is a prerequisite for an elective course, ECNS-410 Digital Signal Processing. If a student wants to take ECNS-410, the student can take MATH-226 as an elective course.

2. Remove ECNS-322 as a required course. This course is being re-configured for the EEET curriculum and will be an option for the CNS student.

3. ISYS-204 is being replaced with CPSC-130. The material covered in CPSC-130 is more in line with the CNS basic curriculum.

4. Remove ECNS-325 as a required course. The material covered in this course is now partially covered in the first four networks courses (ECNS-115, 125, 215, 225) which are based upon the Cisco Academy course and the remaining material will be covered in an expanded version of ECNS-315.

5. ECNS-315 will be changed from 2 lecture hours and 2 lab hours per week to 3 lecture hours and 3 lab hours per week. This change reflects the inclusion of wireless topics from ECNS-325 and also reflects the actual lab time needed for this course.

6. The 300+ level restriction on two directed electives will be removed. This change acknowledges the cases where students have obtained 40 credit hours or more of 300+ level courses before selecting one or more of the directed electives. This change will give the student greater flexibility in scheduling classes.

7. The checksheet has been changed to allow CNS students to take EEET-122 after taking EEET-114 instead of taking them in the same semester.

8. ECNS-310 and ECNS-311 is a programming course where the lab (ECNS-310) is split from the lecture (ECNS-311). This split has proven to be a problem for EEET students that take only the lecture and not the lab portion of the course. ECNS-311 will absorb the 2 credit hour lab from ECNS-310 and become a 3 credit hour course with 2 lecture hours and 2 lab hours. ECNS-310 will be deleted.

These changes result in a reduction of required credit hours for completion of the CNS degree from 135 credit hours to 127 credit hours.

2. Summary of All Course Action Required*

a. Newly Created Courses to FSU:

Prefix	Number	Title
--------	--------	-------

b. Courses to be Deleted From FSU Catalog:

Prefix	Number	Title
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c. Existing Course(s) to be Modified:

Prefix	Number	Title
ECNS	315	Network Theory and Test
ECNS	311	High Level Programming

d. Addition of existing FSU courses to program

Prefix	Number	Title
CPSC	130	Program and Problem Solving

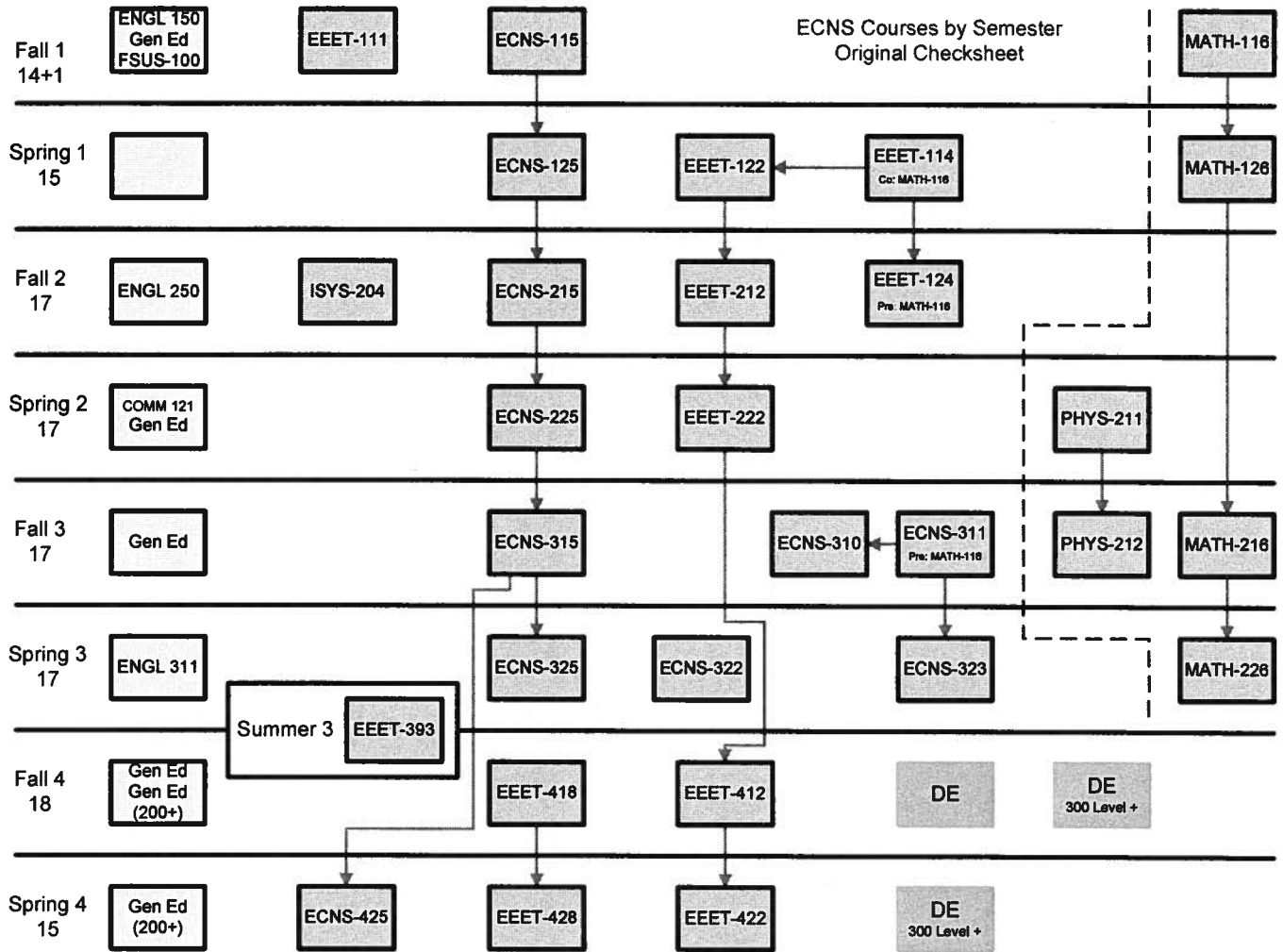
e. Removal of existing FSU courses from program

Prefix	Number	Title
MATH	226	Fourier Series – Applied Differential Equations
ECNS	322	PC Data and Acquisition
ISYS	204	Introduction to Visual Basic
ECNS	325	Wireless Networks
ECNS	310	C/C++ Programming Applications

*Contact Senate Secretary or UCC Chair if spaces for additional courses are needed.

Current Checksheet Course Layout

This layout is included to clarify the program structural changes made in this proposal.

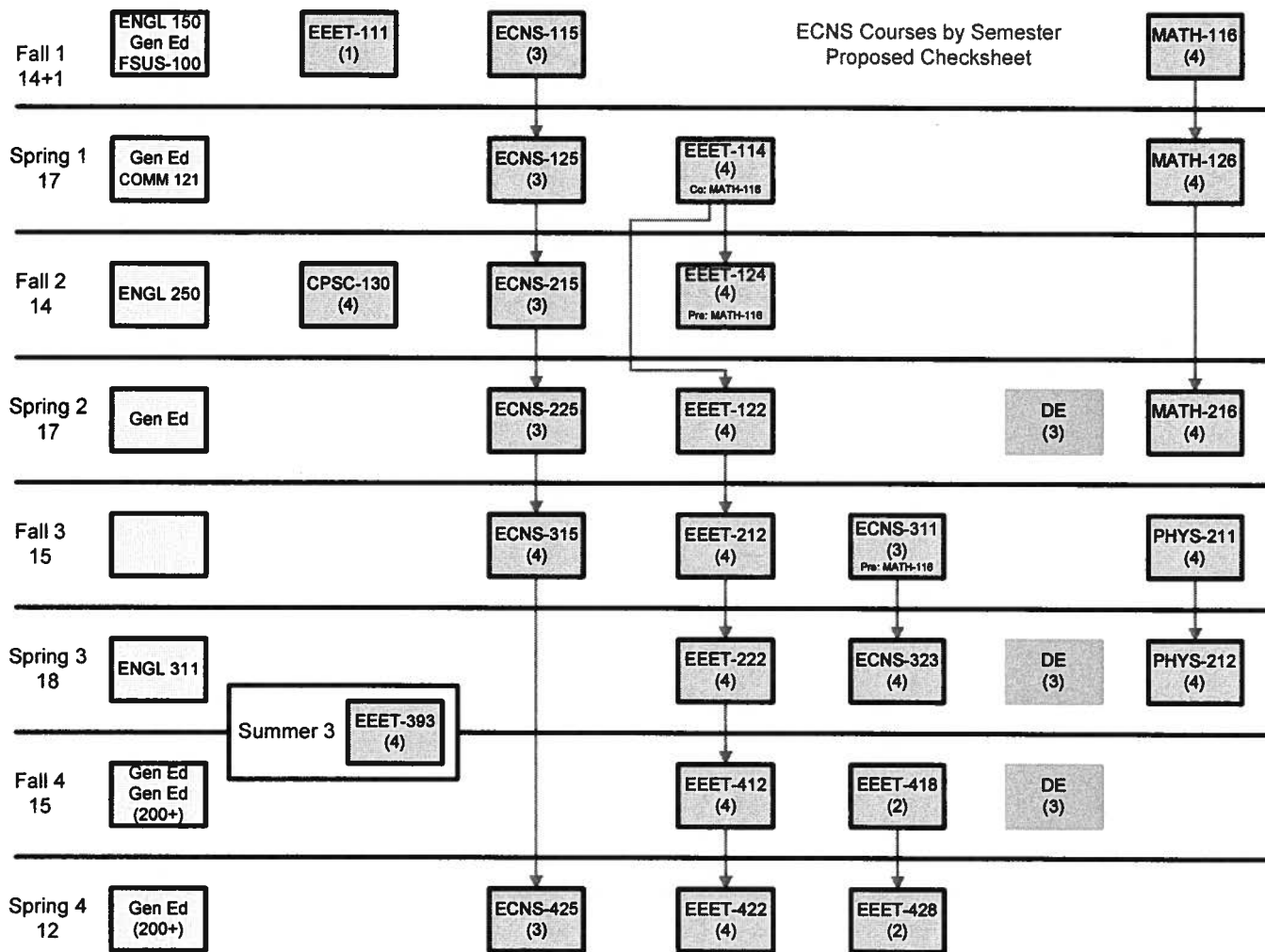


Total 130+4+1

8/9/09

Proposed Checksheet Course Layout

This layout is included to clarify the program structural changes made in this proposal.



Total 122+4+1

9/17/09

3. Summary of All Consultations

Form Sent (B or C)	Date Sent	Responding Dept.	Date Received & by Whom
Form B	11/18/2009	EEET	11/19/2009
Form B	11/18/2009	MATH	12/18/2009
Form B	11/18/2009	COB	12/15/2009

CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. Potential duplication of coursework is reason for consultation.

1. This completed form must be forwarded with the proposal to the chair/head of the department to be consulted.
2. The department must respond within 20 calendar days of receipt of this form to insure inclusion in the final proposal. The completed form is returned to the initiator and inserted into the proposal.

Failure to respond is interpreted as support for the proposal.

3. The Proposing Department must address any concerns raised by the department. This response will be in writing and be included in the proposal following the consultation form.

RE: Proposal Title CNS Curriculum Modification

Initiator(s): CNS Program Faculty

Proposal Contact: Ron Mehringer Date Sent: 11/18/09

Program: CNS Campus Address: 405 Swan
(Please print)

Responding Department: EEET

Chair/Head/Coordinator: Murry Stocking Date Returned: 11/18/09

Based upon department faculty review on 11/18/09 (date), we

- Support the above proposal.
 Support the above proposal with the modifications and concerns listed below.
 Do not support the proposal for the reasons listed below.

Comment regarding the impact this proposal has on scheduling, room assignments, faculty load, and prerequisites for your department. Use additional pages, if necessary.

CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. Potential duplication of coursework is reason for consultation.

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3. The Proposing Department must address any concerns raised by the department. This response will be in writing and be included in the proposal following the consultation form.

RE: Proposal Title CNS Curriculum Modification

Initiator(s): CNS Program Faculty

Proposal Contact: Ron Mehringer Date Sent: 11/18/09

Program: CNS Campus Address: 405 Swan
(Please print)

Responding Department: MATH

Chair/Head/Coordinator: Dr. Kirk Weller Date Returned: 12/18/09



Based upon department faculty review on 12/18/09 (date), we

- Support the above proposal.
- Support the above proposal with the modifications and concerns listed below.
- Do not support the proposal for the reasons listed below.

Comment regarding the impact this proposal has on scheduling, room assignments, faculty load, and prerequisites for your department. Use additional pages, if necessary.

CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. Potential duplication of coursework is reason for consultation.

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Failure to respond is interpreted as support for the proposal.

3. The Proposing Department must address any concerns raised by the department. This response will be in writing and be included in the proposal following the consultation form.

RE: Proposal Title CNS Curriculum Modification

Initiator(s): CNS Program Faculty

Proposal Contact: Ron Mehringer Date Sent: 11/18/09

Program: CNS Campus Address: 405 Swan
(Please print)

Responding Department: COB

Chair/Head/Coordinator: Jim Woolen Date Returned: 12/15/09

Based upon department faculty review on 12/15/09 (date), we

- Support the above proposal.
 Support the above proposal with the modifications and concerns listed below.
 Do not support the proposal for the reasons listed below.

Comment regarding the impact this proposal has on scheduling, room assignments, faculty load, and prerequisites for your department. Use additional pages, if necessary.

The CIS faculty strongly believe that VB.net is much more widely used in the work-world than Python. Understanding VB makes it easier for students to learn VB Scripts which is widely used in many web applications. ISYS 204 also includes business applications and an introduction to accessing databases - which are not covered in the Python course.

Program Response to COB Concerns

We appreciate the comments from the College of Business concerning this proposal and would like to make the following observations concerning their comments:

1. The purpose of the programming course for the CNS student is to teach the student programming skills and logical thinking. These skills are not linked to a specific programming language; however, Visual Basic (VB) is not a programming language in the true sense of the term. This fact substantially limits the value of VB to our students in regard to programming and logical thinking skills. Learning a true programming language such as Python provides these skills.
2. The accessing of databases is important for a business related degree and as a result is more important to the CIS student than it is to the CNS student. CNS students generally are not involved with database management.
3. If a specific student is interested in VB, the student can take ISYS-204 as an elective.

4. Will External Accreditation be Sought? (For new programs or certificates only)

_____ Yes _____X_____ No

If yes, name the organization involved with accreditation for this program.

5. Program Check sheets affected by this proposal.

The BS CNS check sheet affected by this proposal is shown below.

FORM D - CURRENT CHECKSHEET



Bachelor of Science Degree Computer Networks and Systems Course Sequence Guide

Student:			
Email:		ID:	
Advisor:		Ph:	

YEAR 1 - FALL SEMESTER				Crs	Gr
ECNS	115	Networks 1 (Computer Literacy)		3	
EEET	111	Mobile Robots		1	
ENGL	150	English 1 (ENGL 074 or 14 ACT)		3	
MATH	116	Intermediate Algebra (19 ACT or C- in MATH 110)		4	
		Cultural Enrichment Elective		3	
FSUS	100	FSU Seminar		1	
				Total	15

YEAR 1 - SPRING SEMESTER				Crs	Gr
ECNS	125	Networks 2 (ECNS 115)		3	
EEET	114	Electric Circuits 1 (co-req MATH 116)		4	
EEET	122	Digital 1 (co-req EEET 114)		4	
MATH	126	Algebra & Analytical Trig (24 ACT or C- in MATH 116)		4	
				Total	15

YEAR 2 - FALL SEMESTER				Crs	Gr
ECNS	215	Networks 3 (ECNS 125)		3	
EEET	124	Electric Circuits 2 (EEET 114, MATH 116)		4	
EEET	212	Digital 2 (EEET 122)		4	
ISYS	204	Visual Basic Programming		3	
ENGL	250	English 2 (ENGL 150)		3	
				Total	17

YEAR 2 - SPRING SEMESTER				Crs	Gr
ECNS	225	Networks 4 (ECNS 215)		3	
EEET	222	Microcomputer Applications (EEET 212)		4	
COMM	121	Fundamentals of Public Speaking		3	
PHYS	211	Introductory Physics (MATH 116/120 or 26 ACT)		4	
		Social Awareness Elective		3	
				Total	17

YEAR 3 - FALL SEMESTER				Crs	Gr
ECNS	310	C++ Program Applications (co-req ECNS 311)		1	
ECNS	311	High Level Programming (MATH 116)		2	
ECNS	315	Network Theory and Test (ECNS 225)		3	
MATH	216	Applied Calculus (MATH 126)		4	
PHYS	212	Introductory Physics 2 (PHYS 211)		4	
		Social Awareness Elective (200 level or above)		3	
				Total	17

YEAR 3 - SPRING SEMESTER				Crs	Gr
ECNS	322	PC Data Acquisition and Control (EEET 122, 124)		3	
ECNS	323	Real Time Operating Systems (ECNS 311)		4	
ECNS	325	Wireless Networks (ECNS 315)		3	
ENGL	311	Advanced Technical Writing (ENGL 211 or 250)		3	
MATH	226	Fourier Series/Applied Diff. Eqs. (MATH 216)		4	
				Total	17

YEAR 3 - SUMMER SEMESTER				Crs	Gr
EEET	393	Internship (Dept. Approval)		4	
				Total	4

Submit Application for Graduation

YEAR 4 - FALL SEMESTER				Crs	Gr
EEET	412	Advanced Digital Systems (EEET 222)		4	
EEET	418	Project Management (Sr. Status)		2	
		Directed Elective		3	
		Directed Elective (300 level or above)		3	
		Cultural Enrichment Elective (200 level or above)		3	
		Social Awareness Elective		3	
				Total	18

YEAR 4 - SPRING SEMESTER				Crs	Gr
ECNS	425	Network Security Theory & Test (ECNS 315)		3	
EEET	422	Advanced Digital Design (EEET 412)		4	
EEET	428	Senior Project (EEET 418)		2	
		Directed Elective (300 level or above)		3	
		Cultural Enrichment Elective		3	
				Total	15

DIRECTED ELECTIVES:

1. 9 credits required - 6 credits must be at or above 300 level. A grade of C- or better is required
2. May be a mix of ECNS, EEET or other courses but must be approved by your CNS advisor.
3. Directed electives may be used toward a CIS Minor - Consult with the CIS Department for details.

Contact the EET and CNS Department for more information.

Phone: 231-591-2388 Email: eet&cns@ferris.edu

www.ferris.edu/cns

FORM D - PROPOSED CHECKSHEET



Bachelor of Science Degree Computer Networks and Systems Course Sequence Guide

Student:			
Email:		ID:	
Advisor:		Ph:	

YEAR 1 - FALL SEMESTER				Crs	Gr
ECNS	115	Networks 1 (Computer Literacy)		3	
EEET	111	Mobile Robots		1	
ENGL	150	English 1 (ENGL 074 or 14 ACT)		3	
MATH	116	Intermediate Algebra (19 ACT or C- in MATH 110)		4	
		Cultural Enrichment Elective		3	
FSUS	100	FSU Seminar		1	
Total				15	

YEAR 2 - FALL SEMESTER				Crs	Gr
ECNS	215	Networks 3 (ECNS 125)		3	
EEET	124	Electric Circuits 2 (EEET 114, MATH 116)		4	
CPSC	130	Programming and Problem Solving		4	
ENGL	250	English 2 (ENGL 150)		3	
Total				14	

YEAR 3 - FALL SEMESTER				Crs	Gr
EEET	212	Digital 2 (EEET-122)		4	
ECNS	311	High Level Programming (MATH 116)		3	
ECNS	315	Network Theory and Test (ECNS 225)		4	
PHYS	211	Introductory Physics 1 (MATH 116/120)		4	
Total				15	

YEAR 3 - SUMMER SEMESTER				Crs	Gr
EEET	393	Internship (Dept. Approval)		4	
Total				4	

Submit Application for Graduation

YEAR 4 - FALL SEMESTER				Crs	Gr
EEET	412	Advanced Digital Systems (EEET 222)		4	
EEET	418	Project Management (Sr. Status)		2	
		Directed Elective		3	
		Cultural Enrichment Elective		3	
		Cultural Enrichment Elective (200 level or above)		3	
Total				15	

YEAR 1 - SPRING SEMESTER				Crs	Gr
ECNS	125	Networks 2 (ECNS 115)		3	
EEET	114	Electric Circuits 1 (co-req MATH 116)		4	
MATH	126	Algebra & Analytical Trig (24 ACT or C- in MATH 116)		4	
COMM	121	Fundamentals of Public Speaking		3	
		Social Awareness Elective		3	
Total				17	

YEAR 2 - SPRING SEMESTER				Crs	Gr
ECNS	225	Networks 4 (ECNS 215)		3	
EEET	122	Digital 1 (EEET-114)		4	
MATH	216	Applied Calculus (MATH 126)		4	
		Directed Elective		3	
		Social Awareness Elective		3	
Total				17	

YEAR 3 - SPRING SEMESTER				Crs	Gr
EEET	222	Microcomputer Applications (EEET-212)		4	
ECNS	323	Real Time Operating Systems (ECNS 311)		4	
PHYS	212	Introductory Physics 2 (PHYS-211)		4	
		Directed Elective		3	
ENGL	311	Advanced Technical Writing (ENGL 211 or 250)		3	
Total				18	

YEAR 4 - SPRING SEMESTER				Crs	Gr
ECNS	425	Network Security Theory & Test (ECNS 315)		3	
EEET	422	Advanced Digital Design (EEET 412)		4	
EEET	428	Senior Project (EEET 418)		2	
		Social Awareness Elective (200 level or above)		3	
Total				12	

DIRECTED ELECTIVES:

1. Must be approved by your CNS advisor.
2. Directed electives may be used toward a Minor - Consult with the appropriate department for details.

Contact the CNS Program Coordinator for more information.

Phone: 231-591-2388 Email: eet&cns@ferris.edu

www.ferris.edu/cns

MODIFY COURSE
Course Data Entry Form

FORM F
Modify Course
Rev. 07/23/07

I. ACTION TO BE TAKEN: MODIFY AN EXISTING COURSE

Notes:

1. Complete all parts of Sections I and II; complete only those items in Section III that represent changes.
2. If either prefix or number is being changed, use 'Delete Course' and 'Create New Course' forms rather than this form.

a. List the changes to be made (See Proposed Changes a through p below): C, H, M

b. Term Effective (6 digit code only): 201008 Examples: 200801(Spring), 200805(Summer), 200808(Fall)

Note: The first four digits indicate year, the next two digits indicate month in which term begins.

II. CURRENT: Include information that is in the current course database.

a. Course Prefix

ECNS

b. Number

315

c. Enter Contact Hours per week in boxes.

LECTure 2

LAB 2

INDEpendent Study – Check (x)

Practicum:

Seminar:

d. Course Title: Network Theory and Test

III. PROPOSED CHANGES: Complete only those boxes that represent proposed changes identified in Section I. Leave all other spaces blank.

a. Course Prefix

b. Number

c. Enter Contact Hours per week in boxes.

LECTure 3

LAB 3

INDEpendent Study – Check (x)

Practicum:

Seminar:

d. Course Title: (Limit to 30 characters/spaces.)

e. College Code:

f. Department Code:

Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

g. Type: Variable Fixed h. Maximum Credit Hours 4 i. Minimum Credit Hours 4

j. May Be Repeated for Added Credit: Check (x) Yes No

k. Levels: Check (x) Undergraduate Graduate Professional


l. Grade Method: Check (x) Normal Grading Credit/No Credit only (Pass/Fail)

m. CATALOG DESCRIPTION – This course provides an in-depth technical understanding of wired and wireless network implementation, operation, and maintenance. Topics include: electronic, optical, and wireless communication devices and data transmission media; local and wide area networks from the most basic system and architecture to the common components (hardware and software) of the infrastructure and terminals, and their fundamental principles, interconnection, and protocols; network models including private (Ethernet, Token Ring, and Wi-Fi) and public (Frame Relay, ATM, cellular and PCS, 3G+ and WiMax); performance specifications, servers, and troubleshooting. Course labs provide hands-on experience with network components and implementation.

n. Term(s) Offered: (See instructions for listing.) o. Max. Section Enrollment:

p. Prerequisites/Co-requisites/Restrictions: Limited to 100 spaces.

UCC Chair Signature/Date:

 2/11/10

Academic Affairs Approval Signature/Date:

 2/16/10

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code

Basic Skill (BS) General Education (GE) Occupational Education (OC) G.E. Codes

Office of the Registrar use ONLY

Date Rec'd: _____ Date Completed: _____ Entered: SCACRSE ___ SCADETL ___ SCARRES ___ SCAPREQ ___

MODIFY COURSE
Course Data Entry Form

FORM F
Modify Course
Rev. 07/23/07

I. ACTION TO BE TAKEN: MODIFY AN EXISTING COURSE

Notes:

- 3. Complete all parts of Sections I and II; complete only those items in Section III that represent changes.
- 4. If either prefix or number is being changed, use 'Delete Course' and 'Create New Course' forms rather than this form.

a. List the changes to be made (See Proposed Changes a through p below): e, H, M

b. Term Effective (6 digit code only): 201008 Examples: 200801(Spring), 200805(Summer), 200808(Fall)

Note: The first four digits indicate year, the next two digits indicate month in which term begins.

II. CURRENT: Include information that is in the current course database.

a. Course Prefix

ECNS

b. Number

311

c. Enter Contact Hours per week in boxes.

LECTure 2

LAB

INDEpendent Study - Check (x)

Practicum:

Seminar:

d. Course Title: High Level Programming

III. PROPOSED CHANGES: Complete only those boxes that represent proposed changes identified in Section I. Leave all other spaces blank.

a. Course Prefix

b. Number

c. Enter Contact Hours per week in boxes.

LECTure 2

LAB 2

INDEpendent Study - Check (x)

Practicum:

Seminar:

d. Course Title: (Limit to 30 characters/spaces.)

e. College Code:

f. Department Code:

Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.

g. Type: Variable Fixed h. Maximum Credit Hours 3 i. Minimum Credit Hours 3

j. May Be Repeated for Added Credit: Check (x) Yes No

k. Levels: Check (x) Undergraduate Graduate Professional

l. Grade Method: Check (x) Normal Grading Credit/No Credit only (Pass/Fail)

m. CATALOG DESCRIPTION - Course teaches the fundamental of C and C++ programming with emphasis on embedded systems and technical applications. C/C++ will be used to solve engineering problems and to introduce concepts of modular program design, object oriented programming, real-time control, system hardware/software dependencies, and other software engineering topics. Topics include structured program design, C/C++ input and output, functions, pointers, arrays, structures, run-time libraries, classes and object oriented design. Course labs provide hands-on experience with programming and implementation.

n. Term(s) Offered: (See instructions for listing.) o. Max. Section Enrollment:

p. Prerequisites/Co-requisites/Restrictions: Limited to 100 spaces.

UCC Chair Signature/Date:

[Signature] 2/15/10

Academic Affairs Approval Signature/Date:

[Signature] 2/15/10

To be completed by Academic Affairs Office: - Standard & Measures Coding and General Education Code

Basic Skill (BS) General Education (GE) Occupational Education (OC) G.E. Codes

Office of the Registrar use ONLY

Date Rec'd: _____ Date Completed: _____ Entered: SCACRSE __ SCADTL __ SCARRES __ SCAPREQ __