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Minnesota State University, Mankato HOLD and CLEAR buttons only compatible with Acrobat V. 4 and 5 Curriculum Proposal

Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU's curricular process for recommendations and decisions.

		(Check all that apply):		Proposal #	<u>249</u>
College:	<u>Science, Engineering and Technology</u>	<input checked="" type="checkbox"/>	Undergraduate	Effective Date of Change:	
Department:	<u>Electrical and Computer Engineering and T</u>	<input type="checkbox"/>	Graduate	Academic Year	<u>05-06</u>
Program:	<u>Computer Engineering Technology</u>	CIP # _____		(For Office Use Only)	
Type of Change	<u>PROGRAM PROPOSALS</u>			Course Designator	Number of
Proposed:	<u>Redesign--Add/Delete Program Emphasis</u>			and Number	Credits
Title Current:	<u>Drop Networking Emphasis</u>				
Title Proposed:					
24-Char. Abbrev:					
				(if applicable)	

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):

Catalog copy will need to be revised to eliminate Networking emphasis.

Rationale or Justification for change:

Changes in department Technology programs make this emphasis area inappropriate. Skills represented in this area will be offered as part of elective course offerings in the Electronic Engineering Technology degree and Computer Engineering Technology degree.

For General Education or Cultural Diversity Courses Only

General Education Course:		Cultural Diversity Course: (Please check one.) <input type="checkbox"/> Core (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.) <input type="checkbox"/> Related (At least 25% devoted to the above topics or to a global perspective on topics related to African American, Asian, Hispanic, and Native American inhabitants of the United States.)
GE Category #	GE Category Name (Maximum of 3 Categories)	
<u>N/A</u>		
<u>N/A</u>		
<u>N/A</u>		
<p>? For Writing Intensive Courses, attach a description of the kind and quantity of writing.</p> <p>? For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.</p> <p>Attach paper copies of the following:</p> <ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes associated with each GE competency or CD designation. List of strategies to be used to assess students' achievement of each GE competency or CD designation. 		

For New Courses

(Check all that apply:)		Instructional Type: <u>Lecture</u>	Course will be offered:
<input type="checkbox"/>	Course is an elective.	Grading Format: <input type="checkbox"/> Grade <input type="checkbox"/> P/N	<input type="checkbox"/> Fall Semester
<input type="checkbox"/>	Course is required for program		<input type="checkbox"/> Spring Semester
<input type="checkbox"/>	Pre- or Co-requisites:		<input type="checkbox"/> Summer Session
<input type="checkbox"/>	Other courses are being changed or eliminated. (Explain.)		
<input type="checkbox"/> Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)			
Attach paper copies of the following: <ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes. A list of resources required to offer and support this course. A description of how teaching this course will affect department staffing. If 400/500 level course, an explanation of added expectations of graduate students. 			

MAY 23 2006

ACADEMIC AFFAIRS
MINNESOTA STATE UNIVERSITY, MANKATO



Minnesota State University, Mankato
Curriculum Proposal

For Program Proposals

Attach paper copies of the following:

- a. Student learning outcomes for the program.
- b. Minutes from department and college curriculum meetings in which action was taken on this proposal.
- c. Program Assessment Plan. Forms are available on the Academic Affairs Web site:
<http://www.mnsu.edu/acadaf/pra/forms/>
- d. List of program requirements for New programs, or a list of **Current** and **Proposed** program requirements for **Redesigned** programs.
- e. A list of resources required to offer and support this program.
- f. A description of how offering this program will affect department staffing.
- g. A list of additional library holdings required for this program.

Please include rationale for any proposed changes in number of program credits:

For Programs Requiring MnSCU Approval

If any of the following changes are proposed, please fill out and attach MnSCU Program Approval Forms, which are available on the Academic Affairs Web site:

<http://www.mnsu.edu/acadaf/Curriculum/currformsprocess.html>

1. **Creation** of an entirely new program.
2. **Redesign** of existing programs, which takes any of the following forms:
 - ⤵ Addition or deletion of a program option. Options are part of program design in which 30-50% of the courses are required as part of a common core for all students, and which offers curriculum alternatives greater than 30% of the total number of credits in the major. Options are appropriate to baccalaureate or masters programs.
 - ⤵ Addition or deletion of a program emphasis. Emphases are part of program design in which more than 50% of the courses are required as part of a common core for all students, and which offers curriculum alternatives with a minimum of nine credits. Emphases are appropriate to associate and baccalaureate programs.
 - ⤵ Change in program name.
 - ⤵ Change in program CIP #.
 - ⤵ Change in TOTAL program credits.
 - ⤵ Change in degree award. For example, changing a B.A. to B.S.
 - ⤵ Creation of a new degree award in a related academic area. Examples include creation of a certificate program from an existing degree program, or a new degree program from an existing degree program (e.g., Art History BA from Art BA.)
3. **Relocation** of an existing program. This is a proposal to move an existing program from one site to be exclusively offered at another site, and requires closing the program offered at the original site. For example, a program offered both on-campus and through extended campus is to be offered only at the extended campus site.
4. **Replication** of an existing program. This is a proposal to offer an existing program at a new site, which may be an existing MnSCU-approved site, or another campus of the same institution. Replicated programs are offered at both the original site and the new location.
5. **Suspension** or **reinstatement** of a program. This proposal suspends admission of students into an existing program, and is good for three years. Reinstatement proposals request the reopening of student admissions into a given program.
6. **Closure** of a program. This proposal requests closure of an existing program and its from an institution's official inventory of academic programs. Unless a department seeks to re-open a suspended program, it should be closed within three years of suspension.



Minnesota State University, Mankato
Curriculum Proposal

Signature Page

Department

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Will B. Hudson
Department Chair

4-6-06
Date

Comments:

College Curriculum Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Alvin Mahoney
Committee Chair

4-6-06
Date

Comments:

College Dean

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature]
Dean

4/10/06
Date

Comments:

General Education Subcommittee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

General Education Subcommittee Chair Date

Comments:

Undergraduate Curriculum and Academic Policy Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Mark K. Pomix
UCAP Faculty Chair

5/11/06
Date

Comments:

Faculty Association Graduate Committee

Recommended
 Not Recommended

Faculty Association Graduate Chair Date

Comments:

Graduate Dean

Recommended
 Not Recommended

Graduate Dean Date

Comments:

Academic Affairs Council

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature]
Assistant Vice President

5/17/06
Date

Comments:

Senior Vice President and Vice President for Academic Affairs

Approved (Category/ies _____)
 Not Approved (Category/ies _____)

[Signature]
Sr. Vice President / Vice Pres. Academic Affairs

5-17-06
Date

Comments:

ECET Department Meeting, 4-03-06

In attendance: Dr. Hudson, Dr. Nair, Dr. Allen, Jon Caven, Dr. Dvorak, Dr. Mandojana, Dr. Huang, Dr. Khaliq, Dr. Kapadia, and Andrew Miner. Dr. Syed.

1. The minutes for March 20th: Dr. Allen moved, Dr. Nair seconded, minutes approved.
2. Dr. Allen presented a paper in Indiana, at the ASEE meeting.
3. FE review sessions are offered for the students this term.
4. Lab space for the automation equipment. N 174 is already equipped for the power requirements of the automation equipment.
5. FE exam for the Computer Engineers: Since our CE program is not accredited our CEs will not be allowed to take the FE this year. Dr. Mandojana moves that the CEs are allowed to take the PPI exam in lieu of the FE exam. This is a permanent change until there is a need for review. Dr. Dvorak seconds. Approved.
6. The Chronicle of Higher Education has an article on the competency of online degrees.
7. Scholarships: 30 applicants applied (27 qualified) for 40 scholarships. Motion for 6 departmental scholarships of \$1000 each. Dr. Allen moved and Dr. Dvorak seconded. Approved..
8. Dr. Allen on the Technology Curriculum Proposals. 6 course proposals have been turned in.
9. We will be dropping the Networking Option starting this year, but leave the networking courses EET 430 and EET 431. Dr. Allen moved and Dr. Khaliq seconded. Approved.
10. No update for the current search, but there will be a recommendation list for next week. Vince has not yet accepted or rejected the other position offer for Fall 2006.
11. Student advising for Fall 2006 registration is Thursday and Friday for the next 2 weeks.
12. IAB meeting will be on the 20th of April. There will be separate breakouts for the Engineering and Technology programs.
13. Please take pictures of the labs for the department website.
14. Dr. Dvorak: Please turn in your comprehensive exam questions this week.
15. Assessment forms are being generated from last term. For those that have turned in the information the sheets have been completed.
16. If you park on campus the gold permit lottery registration begins today.

Respectfully Submitted,

Andrew Miner

Minnesota State Colleges and Universities PROGRAM REDESIGN APPLICATION

RELATED POLICY or STATUTE: MS 1996, Ch. 368, Sec. 33; MS 1995, Ch. 248, Article 11, Sec. 10; and MS 1996, Ch. 398, Sec. 38; Board Policy 3.14, 3.17, 3.19

[This form is designed for electronic use. You should have some familiarity with the Word table-making function. Enter your information in the correct box on the Tables below.] Please submit an individual form for each program you are redesigning. Multiple changes to the same program may be made on the same form. You may delete all the tables that do not apply to your redesign request.]

SECTION I: DESCRIPTION OF CURRENTLY APPROVED PROGRAM

8-Digit CIP # <i>15.030302</i>	Program Name Computer Engineering Technology – Networking Emphasis	Award Bachelor of Science	Cr Length 128	Location/s MSU, Mankato
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Name of affiliated educational institution that offers one or more credits in this program:

Is this award jointly offered: No

SECTION II: PROPOSED CHANGES TO PROGRAM

Effective start date/s: **Fall 2007 – Drop Networking Emphasis**

Rationale for Proposed Change/s: **Changes in both the Electronic and Computer Engineering Technology degrees make this emphasis area unnecessary.**

Section IIA: NAME CHANGE

Current:

Proposed:

Section IIB: CIP CHANGE*

Current:

Proposed:

Current Program Outcomes:

Proposed Program Outcomes:

*Contact staff to determine whether change is permitted as a redesign, or whether a new program proposal is required.

Section IIC: CHANGE CREDIT LENGTH WITHIN POLICY

Previous:

Proposed:

Section IID: CHANGE CREDIT LENGTH TO EXCEED POLICY

Credit length beyond the policy limits will be approved only if one or more of the following conditions exist: a) the length is required by a state or national licensing body or other regulatory agency, accrediting association, or board; b) the program is employer-sponsored where the employer specifies the required credits as a condition for conferring the award; or c) a formal task analysis has been conducted within the last three years and the results endorsed by an advisory committee. Request for a program length in excess of policy from a professional association or advisory committee is not sufficient for approval.

Previous Length:

Proposed Length:

State Rationale for Exceeding Policy Limits (Attach evidence as appropriate in an appendix):

Section IIE: ADD CURRICULUM ALTERNATIVES*

Name: _____ CIP Code: _____ Total Credits: _____

Option or Emphasis or certificate that is a subcredential of existing award (choose one):

Courses unique to this alternative:

COURSE TITLE/NUMBER	Number of Credits	EXISTING COURSE/S	
		Yes	No

*Change in Curriculum Alternative/s: If you are adding multiple alternatives to a single program, please identify each separately and list courses separately by copying and pasting this section as many times as necessary.

Section IIF: DELETE EXISTING CURRICULUM ALTERNATIVES*

Name of Alternative:	CIP:
Drop Networking Emphasis area	

*Delete Curriculum Alternative/s: If you are deleting multiple alternatives, identify each separately. Add additional lines as necessary.

Section IIG: AWARD CHANGE

Current Award: _____ Proposed Award: _____

List courses for both current award and proposed award



CURRENT AWARD:	COURSE TITLE/NUMBER	Number of Credits	EXISTING COURSE/S	
			Yes	No
PROPOSED AWARD:	COURSE TITLE/NUMBER	Number of Credits	EXISTING COURSE/S	
			Yes	No

Section III: CREATE NEW AWARD IN RELATED ACADEMIC AREA			
Name:	6-digit CIP:	Total Credits:	
Please list all courses for the new award below:		Award:	
COURSE TITLE/NUMBER	Number of Credits	EXISTING COURSE/S	
		Yes	No

*Creating new awards in related academic areas: Before completing this section, contact Academic Program staff to verify that you can make these proposed changes as redesigns. If you are adding awards in multiple related areas, identify each

separately
and list courses separately by replicating this table.

SECTION III: REDESIGNED PROGRAM SUMMARY		
Program Requirements:		
Complete this section if the number of credits in the award has increased from the previous design, or if it is a new award.		
Use the following headings to provide information on each of the components in the program. List all credit totals required for the students to graduate, including prerequisites. If this application is for multiple awards (AAS and/or diplomas and/or certificates) duplicate this table and list requirements for each award separately.		
Program Name:	Award:	
Program Component	Previous Credits	Proposed Credits
General Education/Liberal Studies		
Prerequisites		
Major-Core		
Major-Alternative (see above)		
Major-Restricted Electives		
Required Minor (or est. 20 credits)		
Free Electives		
TOTAL PROGRAM CREDITS		

SECTION IV: APPROVAL VERIFICATION	
<i>Application Author:</i> William B Hudson	
<i>Title:</i> Professor and Chair ECET Department	
<i>Campus:</i> Minnesota State University, Mankato	
<i>Phone and E-Mail:</i> William.hudson@mnsu.edu	
<i>Approval Chief Academic Officer:</i>	 5-19-06
<i>Approval of President:</i>	 5/22/06

Signature of cooperating institution's president for joint awards:

SECTION V: APPENDICES/SUPPORTING DOCUMENTATION

- A. Institution Curriculum Committee Membership and Minutes showing recommendations (required)
- B. Occupational/Professional Demand Data (required, if adding a certificate or AAS to an AS).
- C. Copies of Agreements with Institutions (Joint and Articulated degrees) (required, if applicable)
- D. Justification for Exceeding Program Credit Lengths set in Policy (required, if applicable)
- E. Evidence of business/industry support (required for occupational programs, optional for others)
- F. Letters of Support (optional)

COMPUTER ENGINEERING TECHNOLOGY

EET 113	DC Circuits (3)
EET 114	AC Circuits (3)
EET 221	Electronic CAD (3)
EET 222	Electronics I (4)
EET 223	Electronics II (4)
EET 225	Digital Principles (3)
EET 241	Electronic Shop Practices (2)
EET 400	Network Analysis (3)
EET 454	Microprocessors I (4)
EET 456	Communications I (4)
EET 480	Automatic Controls (3)
EET 484	Microprocessors II (4)
EET 488	Senior Project Design I (1)
EET 489	Senior Project Design II (2)
EET 497*	Internship (3)

* You may substitute one EET advanced elective for internship. Permission required.

Required Minor: None.

NETWORKING EMPHASIS

Required for Emphasis (Communication, Mathematics, and Science, 36 credits):

CHEM 104	Introduction to Chemistry (3)
ENG 101	Composition (4)
ENG 271	Technical Communication (4)
MATH 115	Precalculus Mathematics (4)
MATH 121	Calculus I (4)
MATH 127	Calculus II for Engineering Technology: Integration (2)
MATH 180	Math for Computer Science (4)
PHYS 211	Principles of Physics I (4)
PHYS 212	Principles of Physics II (4)
SPEE 102	Public Speaking (3)

Required for Emphasis (COMS, 22 credits):

COMS 110	Foundation of Computer Science (4)
COMS 171	Introduction to C++ Programming (2)
COMS 211	Fundamentals of Computer Science I (4)
COMS 212	Fundamentals of Computer Science II (4)
COMS 340	Database Systems Management I (4)
COMS 380	Systems Analysis and Design (4)

Required for Emphasis (EET, 48 credits):

EET 113	D C Circuits (3)
EET 114	A C Circuits (3)
EET 221	Electronic CAD (3)
EET 222	Electronics I (4)
EET 225	Digital Principles (3)
EET 230	Microcomputer Technology (4)
EET 241	Electronic Shop Practices (2)
EET 430	Computer Networking I (4)
EET 431	Computer Networking II (4)
EET 454	Microprocessors I (4)
EET 456	Communications I (4)
EET 484	Microprocessors II (4)
EET 488	Senior Project Design I (1)
EET 489	Senior Project Design II (2)
EET 497*	Internship (3)

* You may substitute one EET advanced elective for internship. Permission required.

Required Minor: None

POLICIES/INFORMATION

GPA Policy. Students graduating with a degree in Computer Engineering Technology must have (1) completed a minimum of 20 semester credit hours of upper division EET and COMS at Minnesota State Mankato, (2) have a cumulative GPA of 2.0 or better on all upper division EET and COMS courses, and (3) have completed their senior design sequence at Minnesota State Mankato.

P/N Grading Policy. A student who majors in CET must elect the grade option

for all required courses including general education courses listed by number even if offered by another department.

If the credits earned for composition, technical writing and speech courses equal less than 9 credits, either an advanced speech course or a course in English language literature must be selected as a general elective.

Transfer of credit to the CET major is subject to policies described in this bulletin for all students transferring to Minnesota State Mankato and to the following department policies:

1. All transfer students must take EET 221 if not proficient with current Minnesota State Mankato software.
2. For courses taken at technical colleges/vocational technical schools and pertinent courses taken in the military the student may receive up to 8 credits upon review of course materials, grades and written approval by the program coordinator. These credits may be used for EET 112, 113, and 114. The student may also attempt to test out of EET 114, 222, 223 and 225.
3. For courses taken at community colleges and four-year colleges, up to 25 credits may be accepted if the transcript is from an ABET-accredited program. If the program is not accredited by ABET, up to 20 credits may be accepted. Grades of transfer credits must be C or better to be acceptable for substitution for required courses.

Accreditation

The Computer Engineering Technology program is not accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Petition to evaluate transfer credits must occur no later than the first semester the student is enrolled in or declared a major housed in the department of Electrical and Computer Engineering Technology.

Testing for course credit will be available via prior application made with the program coordinator. Students may not apply for credit by examination for an EET course in which they were previously enrolled at Minnesota State Mankato or for any EET course above EET 225.

COURSE DESCRIPTIONS

Computer Science

COMS 110 (4) Foundation of Computer Science

This course provides a comprehensive introduction to the foundations of computer science. The topics covered include algorithms, pseudocode, computer theory, computer hardware, computer software, and the related social issues. Lab work develops familiarity with both hardware and software. The course is intended to provide knowledge and skills applicable to all disciplines while providing a broad introduction to the field of computer science.

Pre: MATH 112 (College Algebra) F, S
GE-13

COMS 171 (2) Introduction to C++ Programming

This course provides an introduction to programming using C++. Emphasis on structured programming concepts, with a brief discussion of object-oriented programming. Control structures, expressions, input/output, arrays, and functions.

F, S

COMS 211 (4) Fundamentals of Computer Science I

This is the first course in a two-course sequence for students who are planning to major or minor in computer science. The course emphasizes concepts needed for continuing study in computer science, the use of abstraction in program design, and advanced problem-solving skills. Programming in a high-level language is a focal point of the course.

Pre: A grade of A or B in COMS 110. Coreq.: MATH 121 (Calculus I) F, S

COMS 212 (4) Fundamentals of Computer Science II

This course is a continuation of 211. The course introduces students to object-oriented concepts and programming techniques. It also covers essential data

Bill do I delete all of this