

Revised 7/23/07

**PROPOSAL SUMMARY AND ROUTING FORM**

**Proposal Title: Curriculum Changes HEQT & HSET**

**Initiating Unit or Individual: Heavy Equipment Department**

**Contact Person's Name: Keith Cripe e-mail: cripek@ferris.edu phone: ex 2810**

**Date or Term of Proposal Implementation: Spring 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>Keith Cripe</i>	9/11/09	5x Support ___ Support with Concerns ___ Not Support
Department Faculty	<i>Keith Cripe</i>	9/11/09	5x Support ___ Support with Concerns ___ Not Support
Department Head / Chair	<i>[Signature]</i>	7/13/09	Support ___ Support with Concerns ___ Not Support
College Curriculum Committee	<i>[Signature]</i>	11/12/09	10 Support ___ Support with Concerns ___ Not Support
Dean	<i>[Signature]</i>	2/4/10	___ Support ___ Support with Concerns ___ Not Support
University Curriculum Committee	<i>[Signature]</i>	3/22/10	Support 7-0 ___ Support with Concerns ___ Not Support
Senate	<i>[Signature]</i>	3/22/10	Support ___ Support with Concerns ___ Not Support
Academic Affairs	<i>[Signature]</i>	3/23/10	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  
MAR 23 2010  
PROVOST

**1. Proposal Summary**

(Summary is generally less than one page. Briefly: state what is proposed with a summary of rationale and highlights. Additional rationale may be attached.)

**Proposed revision will change the Quantitative Skills requirements of MATH 116 (Intermediate Algebra & Numerical Trig) required for the AAS/HEQT degree to MATH 115 (Intermediate Algebra) & MATH 126 (Algebra & Analytical Trigonometry) required for the BS/HSET degree to MATH 120 (Trigonometry).**

**Changing the math requirements for our programs will help reduce the roadblocks and additional education costs students are experiencing when transferring from other schools into our heavy equipment programs.**

**2. Summary of All Course Action Required\***

**a. Newly Created Courses to FSU:**

Prefix	Number	Title
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**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
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**d. Addition of existing FSU courses to program**

Prefix	Number	Title
MATH	115	Intermediate Algebra
MATH	120	Trigonometry
CAHS	330	OSHA Laws & Regulations
WELD	150	Introduction to Welding

**e. Removal of existing FSU courses from program**

Prefix	Number	Title
MATH	116	Intermediate Algebra & Numerical Trig
MATH	126	Algebra & Analytical Trigonometry
EHSM	330	OSHA Laws & Regulations
WELD	146	Welding for Heavy Equipment

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

## Change of MATH Requirements for HEQT & HSET – Form A

**Purpose:**

**Instructions:** Please check either the Approve or Disapprove box. If you disapprove of the change, explain why.

Instructor	Signature	Date	Vote/Action*
Keith Cripe	<i>Keith Cripe</i>	9/1/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Gary Maike	<i>Gary Maike</i>	9/1/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Darren Wilson	<i>Darren Wilson</i>	8/31/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
John Strohkirch	<i>John Strohkirch</i>	9/01/09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support
Jerry Zmyslowski	<i>Jerry Zmyslowski</i>	9-1-09	<input checked="" type="checkbox"/> Support <input type="checkbox"/> Support with Concerns <input type="checkbox"/> Not Support

\* Support with Concerns or Not Support **must** include a list of specific concerns.

### CURRICULUM CONSULTATION FORM

To be completed by each department affected by the proposed change, new degree, new program, new minor, or new course. All returned forms should be included in the packet and notation made of any contacted departments not responding. **NOTE:** The Proposing Department may also respond to any comments by the Responding Department.

**The Responding Department must respond within 30 calendar days of receipt of this form to insure that the form is included in the final proposal.**

**RE: Proposal Title:** Minor Curriculum Changes:

Proposed revision will change the Quantitative Skills requirements of MATH 116 (Intermediate Algebra & Numerical Trig) required for the AAS/HEQT degree to MATH 115 (Intermediate Algebra) & MATH 126 (Algebra & Analytical Trigonometry) required for the BS/HSET degree to MATH 120 (Trigonometry).

<b>Proposing Department:</b> <u>Heavy Equipment</u> Chair/Head/Coordinator: <u>Keith Cripe</u> Date Sent: <u>9/8/2009</u>
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<b>Responding Department :</b> <u>Mathematics</u> Chair/Head/Coordinator: <u>David Frank</u> <i>KICK</i> <i>WELLER</i> Date Returned: <u>    </u>
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Based upon department faculty review on 9/10 (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.

Kirk Weller/FSU  
09/10/2009 04:29 PM

To Keith W Cripe/FSU@Ferris  
cc Kirk Weller/FSU@FERRIS  
bcc  
Subject Form B: Heavy Equipment Curriculum Proposal

Keith,

I signed off on the Form B for the Heavy Equipment proposal that calls for MATH 115 in place of MATH 116 and MATH 120 in place of MATH 126.

Are you aware of the plan to create a committee of math and COT faculty to discuss MATH 116, 126, 216, and 226? I sent this message to the school directors a couple of weeks ago. I talked with Greg yesterday. As far as I know, he plans to seek faculty participation. The purpose of the committee (a long term effort) will be to find ways to make 116, 126, 216, and 226 work better for COT students. If this endeavor is successful, you may want to return to these courses. I realize that your desire to switch to 115 and 120 is because of transferability issues.

Kirk



HeavyEquip-Curr-Proposal-FormB-10Sept09.PDF

**FORM D**  
rev. Oct. 2, 2003

**PROGRAM, MAJOR, OR MINOR CHECK SHEET(S)**

Insert both the current curriculum check sheet (if applicable) followed by proposed curriculum check sheet" and/or "academic program requirements" list for Category I, I-A, II, II-A, III, or IV, per instructions. **LABEL CHECK SHEETS AS "FORM D CURRENT" and "FORM D PROPOSED."** Check sheets should indicate total credits, General Education requirements per catalog guidelines (include course levels), and the minimum number of 300 and 400 level courses. Also any special admissions, continuation, or graduation requirements should be shown.

## "FORM D CURRENT"

Associate of Applied Science  
Heavy Equipment Technology

FIRST YEAR – FALL SEMESTER			CR. HR.	CT. HR.
HEQT	100	Troubleshooting Strategies	2	4
HEQT	101	HEQ Maintenance Fundamentals	2	4
HEQT	110	HEQ Electronics Fundamentals	4	6
ENGL	150	English I	3	3
<b>MATH</b>	<b>116</b>	<b>Intermediate Algebra-Num. Trig</b>	<b>4</b>	<b>4</b>
Totals			15	21

FIRST YEAR – WINTER SEMESTER				
HEQT	200	Planned Maintenance Systems	2	2
HEQT	210	HEQ Electrical Systems	3	5
HEQT	160	Fluid Power Fundamentals	4	6
WELD	146	Welding for HEQ	2	4
PHYS	130	Concepts of Physics	4	5
Totals			15	22

FIRST YEAR – SUMMER SEMESTER				
HEQT	193	Industry Internship	4	

SECOND YEAR – FALL SEMESTER				
HEQT	201	Transport Refrigeration Systems	3	5
HEQT	120	HEQ Engine Technology	4	6
HEQT	240	HEQ Brakes & Suspension Systems	3	5
HEQT	270	HEQ Power Transfer Technology	3	5
-----	-----	Cultural Enrichment Elective	3	3
Totals			16	24

SECOND YEAR-WINTER SEMESTER				
HEQT	230	Diesel Fuel Systems Technology	4	6
HEQT	271	HEQ Automatic transmissions	4	6
ENGL	211	Industrial and Career Writing	3	3
-----	-----	Social Awareness Elective	3	3
Totals			14	17

Depending on when a student enters the program, he or she will enroll in an internship program during the first or second summer after entering the program. The internship will consist of 12 weeks, 480 hours of on-the-job training. AAS Degree – 60 Credit Hours + 4 Credit Hour Summer Internship (480 Contact Hours). 64 Total Program Credit Hours.

## “FORM D PROPOSED”

Associate of Applied Science  
Heavy Equipment Technology

FIRST YEAR – FALL SEMESTER			CR. HR.	CT. HR.
HEQT	100	Troubleshooting Strategies	2	4
HEQT	101	HEQ Maintenance Fundamentals	2	4
HEQT	110	HEQ Electronics Fundamentals	4	6
ENGL	150	English 1	3	3
<b>MATH</b>	<b>115</b>	<b>Intermediate Algebra</b>	<b>3</b>	<b>3</b>
Totals			14	20

FIRST YEAR – WINTER SEMESTER			CR. HR.	CT. HR.
HEQT	200	Planned Maintenance Systems	2	2
HEQT	210	HEQ Electrical Systems	3	5
HEQT	160	Fluid Power Fundamentals	4	6
WELD	150	Introduction to Welding	2	4
PHYS	130	Concepts of Physics	4	5
Totals			15	22

FIRST YEAR – SUMMER SEMESTER			CR. HR.	CT. HR.
HEQT	193	Industry Internship	4	

SECOND YEAR – FALL SEMESTER			CR. HR.	CT. HR.
HEQT	201	Transport Refrigeration Systems	3	5
HEQT	120	HEQ Engine Technology	4	6
HEQT	240	HEQ Brakes & Suspension Systems	3	5
HEQT	270	HEQ Power Transfer Technology	3	5
-----	-----	Cultural Enrichment Elective	3	3
Totals			16	24

SECOND YEAR-WINTER SEMESTER			CR. HR.	CT. HR.
HEQT	230	Diesel Fuel Systems Technology	4	6
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ENGL	211	Industrial and Career Writing	3	3
-----	-----	Social Awareness Elective	3	3
Totals			14	17

Depending on when a student enters the program, he or she will enroll in an internship program during the first or second summer after entering the program. The internship will consist of 12 weeks, 480 hours of on-the-job training. AAS Degree – 59 Credit Hours + 4 Credit Hour Summer Internship (480 Contact Hours). 63 Total Program Credit Hours.

**“FORM D CURRENT”**  
**HEAVY EQUIPMENT SERVICE ENGINEERING TECHNOLOGY**  
**BACHELOR OF SCIENCE DEGREE**

<b>THIRD YEAR – FALL.. SEMESTER</b>		<b>CREDITS</b>
HSET 302	Fleet Management	4
ACCT 201	Principles of Accounting 1	3
MATL 240	Introduction to Material Science	4
COMM 221	Small Group Decision Making	3
MATH 126	Algebra & Analytic Trigonometry	4
<b>Total</b>		<b>18 4</b>

<b>THIRD YEAR – WINTER SEMESTER</b>		
HSET 300	Applied Failure Analysis	4
EHSM 330	OSHA Laws & Regulations	2
PHYS 211	Introductory Physics 1	4
ECON 221	Principles of Economics 1	3
<b>Total</b>		<b>13 6</b>

<b>THIRD YEAR – SUMMER SEMESTER</b>		
HSET 393	Industry Internship	4 4

<b>FOURTH YEAR – FALL SEMESTER</b>		
HSET 460	Heavy Equipment Advanced Hydraulic Systems	4
MGMT 301	Applied Management	3
Elective	Directed Elective (300 level or above)	3
Elective	Cultural Enrichment Elective** (200 level or above)	3
<b>Total</b>		<b>13 10</b>

<b>FOURTH YEAR – WINTER SEMESTER</b>		
HSET 403	Testing Systems and Analysis	4
HSET 410	Interactive Electronic Controls	4
ENGL 311	Advanced Technical Writing	3
SURE 331	Ethics & Professionalism in EGRG/TECH	3
Elective	Social Awareness Elective**	3
<b>Total</b>		<b>17 14</b>

\*\* One of these courses needs to be a 300 level or higher to meet minimum University requirement of 40 credit hours of 300 level or above coursework.

Total semester hours required for BS Degree: 61 + 4 hours for Internship (Total - 65 Credit Hours)

**Note:** Meeting the requirements for graduation indicated on this sheet is the responsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you. Proposal meets the minimum credit hours for courses 300 level or higher.

**Total number of credits above 300 = 41**

**“FORM D PROPOSED”**  
**HEAVY EQUIPMENT SERVICE ENGINEERING TECHNOLOGY**  
**BACHELOR OF SCIENCE DEGREE**

<b>THIRD YEAR – FALL.. SEMESTER</b>		<b>CREDITS</b>	
HSET 302	Fleet Management	4	
ACCT 201	Principles of Accounting 1	3	
MATL 240	Introduction to Material Science	4	
COMM 221	Small Group Decision Making	3	
<b>MATH 120</b>	<b>Trigonometry</b>	<b>3</b>	
<b>Total</b>		<b>17</b>	<b>4</b>

<b>THIRD YEAR – WINTER SEMESTER</b>			
HSET 300	Applied Failure Analysis	4	
<b>CAHS 330</b>	<b>OSHA Laws &amp; Regulations</b>	<b>2</b>	
PHYS 211	Introductory Physics 1	4	
ECON 221	Principles of Economics 1	3	
<b>Total</b>		<b>13</b>	<b>6</b>

<b>THIRD YEAR – SUMMER SEMESTER</b>			
HSET 393	Industry Internship	4	4

<b>FOURTH YEAR – FALL SEMESTER</b>			
HSET 460	Heavy Equipment Advanced Hydraulic Systems	4	
MGMT 301	Applied Management	3	
Elective	Directed Elective (300 level or above)	3	
Elective	Cultural Enrichment Elective** (200 level or above)	3	
<b>Total</b>		<b>13</b>	<b>10</b>

<b>FOURTH YEAR – WINTER SEMESTER</b>			
HSET 403	Testing Systems and Analysis	4	
HSET 410	Interactive Electronic Controls	4	
ENGL 311	Advanced Technical Writing	3	
SURE 331	Ethics & Professionalism in EGRG/TECH	3	
Elective	Social Awareness Elective**	3	
<b>Total</b>		<b>17</b>	<b>14</b>

**\*\* One of these courses needs to be a 300 level or higher to meet minimum University requirement of 40 credit hours of 300 level or above coursework.**

Total semester hours required for BS Degree: 60 + 4 hours for Internship (Total - 64 Credit Hours)

**Note:** Meeting the requirements for graduation indicated on this sheet is the responsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you. Proposal meets the minimum credit hours for courses 300 level or higher.

**Total number of credits above 300 = 41**