<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Reviewed change at division meeting.</td>
<td></td>
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<tr>
<td>Step 2</td>
<td>Presented as informational item at Division Chair Meeting(s) and checked if it affects other departments. Like programs must meet with Division Chairs on all affected campuses (North Mankato and Faribault).</td>
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<td></td>
<td>Division Chair’s signature</td>
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<tr>
<td>Step 3</td>
<td>Instructional Dean reviewed and indicated need for Curriculum Committee approval.</td>
<td></td>
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<td></td>
<td>Instructional Dean’s signature</td>
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<tr>
<td>Step 4</td>
<td>Advisory Committee approval indicated in meeting minutes if necessary. Minutes provided to Curriculum Committee.</td>
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<tr>
<td>Step 5</td>
<td>Curriculum Committee made recommendations (changes, additional approvals, etc.). If no, skip to Step 7.</td>
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<tr>
<td>Step 6</td>
<td>Committee’s recommendations completed. (Skip if not applicable.)</td>
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<tr>
<td>Step 7</td>
<td>Curriculum Committee approved.</td>
<td>✔️</td>
<td></td>
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<tr>
<td></td>
<td>Curriculum Committee Chair’s signature</td>
<td></td>
<td></td>
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<tr>
<td>Step 8</td>
<td>Minutes and necessary materials provided to VP of Academic Affairs.</td>
<td></td>
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<tr>
<td>Step 9</td>
<td>Vice President of Academic Affairs approved.</td>
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<tr>
<td></td>
<td>Vice President of Academic Affairs’s signature</td>
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</tr>
<tr>
<td>Step 10</td>
<td>New Course Maximum Enrollment to Shared Governance.</td>
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<tr>
<td>Step 11</td>
<td>President’s approval for all changes requiring MnSCU approval.</td>
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</tbody>
</table>

President’s signature ____________________________
Appendix B

New Course or Course Change Proposal Form

Date of Proposal: May 3, 2013

Author: Doug Laven

Proposal Type: (*)New Course  Modify Course  Delete Course

Contact for the Course: Doug Laven

Course Designator, Number and Title (i.e.: ACCT 1800, Business Law): MECA 1150, Boiler Operation Principles.

Number of Credits:  1

Prerequisites: None

Course Description: This course is designed for anyone who needs to understand fundamental boiler operation in order to improve efficiencies and safety at their industrial plants or large building facilities. This course can also help students prepare for Boiler Operating Licensing exams. Individuals involved with residential hot water systems will also find this course extremely valuable. Prerequisites, None.

Grading Method:  Grade  x  Pass/Fail

<table>
<thead>
<tr>
<th>Scheduling</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
<th>Alternate Years</th>
<th>Variable</th>
<th>On Demand</th>
<th>x</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Type</td>
<td>Lecture x</td>
<td>Lab</td>
<td>Lecture/Lab</td>
<td>Internship</td>
<td>Seminar</td>
<td></td>
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</tr>
</tbody>
</table>

(*)Class Maximum: (For New Courses Only) / All Unlimited faculty members of a program or discipline must sign.

<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Faculty Signature</th>
<th>Class Max</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doug Laven</td>
<td>[Signature]</td>
<td>24</td>
<td>May 6, 2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dean's Name</th>
<th>Dean's Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[Signature]</td>
<td>8 May 13</td>
</tr>
</tbody>
</table>

If there is not enough space provided, please use the back of this form for additional signatures or click on a row with the right button of the mouse, select insert and then select insert rows below to add rows to the table.

Is this Course Proposed as a Liberal Arts Course:  Yes  No x

If Yes, Which MnTC Area/Areas Will it Fulfill (http://www.mntransfer.org)?

Is This Course a Requirement/Elective for a Specific Program or Programs:  Yes  No x

If Yes, Which Program(s)?

Describe What is Changing/Being Added, and the Rationale: This course has been developed for individuals who want to supplement their Industrial Maintenance Certificate.

What Impact Will This New Course or Change Have on Other Programs or Areas? None.
South Central College

MECA 1150  Boiler Operation Principles

Common Course Outline

Course Information

Description  This course is designed for anyone who needs to understand fundamental boiler operation in order to improve efficiencies and safety at their industrial plants or large building facilities. This course can also help students prepare for Boiler Operating Licensing exams. Individuals involved with residential hot water systems will also find this course extremely valuable. Prerequisites, None.

Career Cluster  Engineering, Manufacturing & Technology

Instructional Level  Certificate

Total Credits  1.00
Total Hours  16.00

Types of Instruction

Instruction Type  Credits
Lecture  1/16

Pre/Corequisites

Prerequisite  None

Institutional Core Competencies

1  Analysis and inquiry: Students will demonstrate an ability to analyze information from multiple sources and to raise pertinent questions regarding that information.

2  Critical and creative thinking: Students will develop the disposition and skills to strategize, gather, organize, create, refine, analyze, and evaluate the credibility of relevant information and ideas.

3  Foundations and skills for lifelong learning: Students will display an understanding of learning as a lifelong process through demonstration of a desire to learn, the willingness to apply learning to other areas of their lives, the ability to think and act independently, be willing to take the initiative to get projects done, and demonstrate the ability to reflect upon what has occurred and how it impacts the student and others.
Teamwork and problem-solving: Students will demonstrate the ability to work together cohesively with diverse groups of persons, including working as a group to resolve any issues that arise.

Course Competencies

1  **Review Boiler Operation Principles.**
   Learning Objectives
   Review Boilers in industry.
   Discuss thermodynamics.
   Characterize combustion and pressure.
   Discuss boiler classifications.

2  **Discuss Water, Feedwater, Fuel and Draft Systems.**
   Learning Objectives
   Acknowledge safety valves and gauges.
   Examine water column and blowdown principals.
   Summarize boiler venting.
   Characterize heat exchangers.
   Identify steam valves, headers, trans and strainers.
   Outline the different fuel systems and draft methods.

3  **Explain Boiler Water Treatment.**
   Learning Objectives
   Acknowledge feedwater accessories.
   Analyze low water cutoff.
   Categorize different pump configurations.
   Articulate the different boiler water conditions.
   Discuss boiler water treatment methods.

4  **Analyze Boiler Operation Procedures.**
   Learning Objectives
   Detail boiler operation task and procedures.
   Be aware of first-time boiler start-up procedures.
   Confirm boiler inspection procedures and/or requirements.
   Translate boiler troubleshooting procedures.

5  **Compare Hot Water Heating and Cooling Systems.**
   Learning Objectives
   Compare circulation systems.
   Analyze water temperature control.
   Describe tanks and aquastats.
   Differentiate piping systems.
   Investigate cooling system principles.
   Follow refrigerant management guidelines.

6  **Summarize Boiler Operation Safety.**
   Learning Objectives
   Acknowledge government regulatory agencies and job site safety practices.
   Compare classes of fire.
   Recognize different hazardous materials.
Summarize personal protective equipment.

7 Explore Boiler Operator Licensing.

Learning Objectives
Discuss boiler operation careers.
Review licensing examination preparation.
Provide boiler operation information resources.
Acknowledge licensing requirements.

SCC Accessibility Statement
If you have a disability and need accommodations to participate in the course activities, please contact your instructor as soon as possible. This information will be made available in an alternative format, such as Braille, large print, or cassette tape, upon request. If you wish to contact the college ADA Coordinator, call that office at 507-389-7222.

Disabilities page http://southcentral.edu/academic-policies/disability-rights.html