

ACADEMIC SENATE PROPOSAL TRACKING SHEET

(Document To Be Originated By Academic Senate Secretary On Canary Color Paper)

All proposals MUST have their originating college faculty body (Ex. Nursing, Technical Sciences, Arts & Sciences, Education) approval and must be signed by the submitter and the college chair/dean before being submitted to the academic senate secretary.

- 1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms) to the Academic Senate Secretary.
- 2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): Teacher Education (if applicable), General Education (if applicable), or Curriculum.
- 3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is forwarded to the next committee. If a committee disapproves the proposal, the originator may request that the item be forwarded to the next body for consideration. The committee will provide written rationale to the originator when a proposal is disapproved and the proposal is returned to the originator.
- 4. The Academic Senate considers the proposal and approves or disapproves. If approved, the proposal is forwarded to the Full Faculty for consideration. If the Academic Senate disapproves the proposal, the originator may request that the item be forwarded to the Full Faculty for consideration. The Academic Senate will provide written rationale to the originator when proposals are disapproved and the proposal is returned to the originator.
- 5. The Full Faculty considers academic senate approved proposals. If faculty approve, the proposal will then be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor.
- 7. The Chancellor approves or disapproves the proposal.

Subcommittee and Academic Senate college representatives will notify their respective colleges' of the progress of submitted proposals or the proposal may be tracked via the web page --

<http://www.msun.edu/admin/provost/asproposals.htm>

Documentation and forms for the curriculum process is also available on the web page:

<http://www.msun.edu/admin/provost/asforms.htm>

***** (If a proposal is disapproved at any level, it is returned through the Academic Senate secretary to the Chair/Dean of the submitting college who then notifies the originator.)

Proposal # 02-30	Title: PLUMBING AAS - New degree
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(proposal explanation, submitter and college chair/dean signatures on attached program/degree or course revision form)

Received by ACAD Senate	Date	Approved	Disapproved
Forwarded to Teacher Ed Council	4/1/03	<input type="checkbox"/>	<input type="checkbox"/>
Forwarded to Gen Ed Committee		Signature	Date
Returned to ACAD Senate		Approved	Disapproved
Forwarded to Curriculum Committee	4/1/03	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Returned to ACAD Senate for Vote	4/4/03	Signature	Date
Sent to Provost's office for Full Faculty vote	4/9/03	Approved	Disapproved
Voted on at Full Faculty meeting	4/29/03	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forwarded to Provost for Approval/Disapproval	5/18/03	Signature	Date
Forwarded to Chancellor for Approval/Disapproval	5/22/03	Approved	Disapproved
Copies sent to originating college and registrar's office	5/28/03	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROGRAM/DEGREE REVISION FORM

NEW DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing AAS Degree Date 3-31-03

Submitter _____ Chair/Dean *Gregory O. Keyel* Date 3-31-03
signature signature

Please provide a brief explanation & rationale for the proposed revision(s)

New Associate of Applied Science Degree in Plumbing

signatures on original indicate approval of entire packet including course descriptions

Please provide in the space below a "before & after" picture of the program with the changes in the program noted. Attach appropriate Course Revision Forms. Please indicate changes by shading the appropriate cells.

FRESHMAN YEAR

Courses to be taken Fall Semester

CIS	110	Intro to Computers	3
MAAS	106	Elementary Technical Math	3
PLMB	100	Intro to the Plumbing Trades	4
HPE	234	First Aid & CPR	2
DRFT	131	Technical Graphics I	4
			16

Courses to be taken Spring Semester

ENGL	111	Written Communication I	3
PLMB	110	Intro to Plumbing and Drawing	1
PLMB	120	Intro to Piping Systems	3
PLMB	125	Intro to Plumbing Fixtures	2
TECH	100	Industrial Safety & Waste Mgmt	2
METL	140	Intro to Welding & Cutting	3
PLMB	170	Plumbing Codes	2
			16

SOPHOMORE YEAR

Courses to be taken Fall Semester

PLMB	200	Pipe Fitting Tools and Motorized Equip.	3
PLMB	210	Advanced Blueprint Reading for Plumb.	2
PLMB	230	Hangers, Supports, Testing Piping & E	2
TSCI	205	Distribution Systems	3
SPCH	141	Fund. Of Speech	3
			13

Courses to be taken Spring Semester

EET	110	Electronics Survey I	3
PLMB	250	Special Piping	3
PLMB	260	Intro to Control Circuit Troubleshooting	2
PLMB	270	Hydronic Heating & Cooling Systems	2
PLMB	280	Energy Management	1
PLMB	285	System Startup & Shutdown	1
TSCI	206	Applied Water Hydraulics	3
			15

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COURSE REVISION FORM

NEW DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING AAS DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 100

Course Title: Intro to the Plumbing Trades

Credits: 4

Required by: Plumbing Associate of Applied Science

Selective in:

Elective in:

General Education:

Lecture:

Lecture/Lab: X

Contact hours lecture: 1

Contact hours lab: 6

Proposed or New Catalog Description (include all prerequisites):

This course covers tools in the plumbing trade and how to use them: tools powered by electricity, batteries, and pressurized air, such as drills, saws, grinders, sanders, slings, hardware, hoists, rigging operations, critical safety issues, and accepted rigging techniques and practices. Course fee \$25.00

Course Outcome Objectives:

- Identification equipment
- Safe operations of trade equipment
- Maintenance of hand and power tools used in the plumbing industry
- Safe applications of rigging operations

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Plumbing hand tools such as pipe wrenches, hammers, screw drivers, ripping bars, wrenches, pliers and wire cutters, levels, rulers measuring tools, clamps, saws, chisels, plumb bobs, wedges, chains, hand wenches, wire brushes, shovels. Power drills, saws, grinders and sanders, hydraulic jacks, slings, hitches, rigging hardware, hoists, rigging operations and practices.

Faculty

COURSE REVISION FORM

NEW DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-27-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):

NEW COURSE FOR PLUMBING AAS DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 110

Course Title: Intro to Plumbing and Drawing

Credits: 1

Required by: Plumbing AAS degree

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 1

Contact hours lab:

Proposed or New Catalog Description (include all prerequisites):

This course introduces the history of plumbing from ancient times to current plumbing training programs, + also covers professional practices, career opportunities, and some basic safety. This course reviews the blueprints that are included in a building's plans and then moves on to specific plumbing drawings, such as isometric and oblique pictorial drawings, orthographic drawings, and schematic drawings. It also covers drawings of fixtures, assembly drawings, and cutaway drawings. This course includes an application of plumbing math.

Course Fee \$5.00

Course Outcome Objectives:

- Interpret and draw plumbing drawing in isometric, oblique, orthographic and schematic views
- Identify symbols for pipe fittings
- Interpretation of assembly drawings
- Understanding and application of math used in offsets, bends, and layouts.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

New faculty

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING AAS DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 120

Course Title: Intro to Piping Systems

Credits: 3

Required by: Plumbing AAS Degree

Selective in:

Elective in:

General Education:

Lecture:

Lecture/Lab: X

Contact hours lecture: 1

Contact hours lab: 4

Proposed or New Catalog Description (include all prerequisites):

This course describes the various types of plastic piping and fittings, what each is used for, and the measuring, cutting, and joining techniques for each type; hangers and supports used with plastic pipe; various types of copper tubing and fittings, measuring, cutting, and joining techniques; two types of cast-iron pipe (hub and no-hub). *This course also*
~~Describes~~ carbon steel pipe; ^{AN} overview of the drain, waste, and vent (DWV) systems; basics of traps, drains, vents, DWV fittings, and cleanouts; ~~overview~~ ^{AN} overview of the water distribution system.
Course Fee \$30.00 ^{AN}

Course Outcome Objectives:

- Application of proper procedures for preparation, cutting, and joining of plastic pipe and fittings
- Application of proper procedures for preparation, cutting, and joining of copper tubing and fittings
- Application of proper procedures for preparation, cutting, and joining of ferrous pipe and fittings

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

PLMB 120 course rev form 3-31-03

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING AAS DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 125

Course Title: Introduction to Plumbing Fixtures

Credits: 2

Required by: Plumbing AAS degree

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 1

Contact hours lab: 2

Proposed or New Catalog Description (include all prerequisites):

This course covers the various types of fixtures that plumbers install, including sinks and lavatories, bathtubs and showers, water closets and urinals, garbage disposals and dishwashers, and laundry trays and mop basins.

Course Fee \$15.00

Course Outcome Objectives:

- Identification of fixtures
- Location and installation of fixtures

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING AAS DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 170

Course Title: Plumbing Codes

Credits: 2

Required by:

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 2

Contact hours lab:

Proposed or New Catalog Description (include all prerequisites):

This course is a ~~continued~~ study of the State of Montana plumbing Code as it regulates environmental sanitation for the protection of public health. *Lower case* It also includes a study of the materials and installation methods that require a minimum of service and maintenance.

Course Fee \$5.00

Course Outcome Objectives:

- Successful completion of the State of Montana Plumbing Code Exam.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED ___ MAJOR REVISION ___ FOR INFORMATION ONLY ___

College _____ Program Area _____ Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 200

Course Title: Pipe Fitting Tools and Motorized Equipment

Credits: 3

Required by:

Selective in:

Elective in:

General Education:

Lecture:

Lecture/Lab: X

Contact hours lecture: 1

Contact hours lab: 4

Proposed or New Catalog Description (include all prerequisites):

This course covers general hand tools safety and procedures for identifying, selecting, inspecting, using, and caring for pipe vises and stands, pipe wrenches, levels, pipe fabrication tools, and pipe bending and flaring tools.

Course Fee \$25.00

Course Outcome Objectives:

- Identification of hazards and application of safe procedures when using electric and pneumatic power tools
- Proper use of engine driven generators, welding machines, air compressors, pumps, forklift trucks and hydraulic cranes.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter Chair/Dean Date
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 210

Course Title: Advanced Blueprint Reading

Credits: 2

Required by: Plumbing AAS Degree

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 2

Contact hours lab:

Proposed or New Catalog Description (include all prerequisites):

This course introduces plot plans, structural drawings, elevation drawings, as-built drawings, equipment arrangement drawings, isometric drawings, spool sheets, and detail sheets in the plumbing industry.

Course Fee \$5.00

Course Outcome Objectives:

- Interpretation and application of plot plans, equipment location plans, piping orthographic drawings, structural steel plans, piping ISOs, and detail sheets.
- Interpretation and application of line indexes, drawing indexes, and instrument summaries

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED ___ MAJOR REVISION ___ FOR INFORMATION ONLY ___

College College of Technical Sciences Program Area ___ Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 230

Course Title: Hangers, Supports, and Field Testing

Credits: 2

Required by: Plumbing AAS Degree

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 2

Contact hours lab:

Proposed or New Catalog Description (include all prerequisites):

This course describes pipe hangers and supports found on the job site and the selection and performance of field tests of plumbing installation.

Course Fee \$10.00

Course Outcome Objectives:

- Interpretation of pipe support drawings and symbols
- Determination of field placement of hangers
- Selection and performance of pretests
- Application of service flow tests
- Interpretation of head pressure tests, hydrostatic tests, and steam blow tests

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Signature _____ Chair/Dean _____ Signature (indicates "college" level approval) _____ Date _____

Please provide a brief explanation & rationale for the proposed revision(s):

NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 250

Course Title: Special Piping

Credits: 3

Required by: Plumbing AAS degree

Selective in:

Elective in:

General Education:

Lecture:

Lecture/Lab: X

Contact hours lecture: 1

Contact hours lab: 4

Proposed or New Catalog Description (include all prerequisites):

This course explains how to assemble flared and compression joints using copper tubing and the installation of hydronic piping.

Course Fee \$30.00

Course Outcome Objectives:

- Soldering and brazing of joints using copper tubing
- Bending pipe to specified radius
- Installation of hydraulic fitted compression joints
- Preparation of grooved pipe couplings

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Signature _____ Chair/Dean _____ Signature (indicates "college" level approval) _____ Date _____

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 260

Course Title: Intro to Control Circuit Troubleshooting

Credits: 2

Required by:

Selective in:

Elective in:

General Education:

Lecture:

Lecture/Lab: X

Contact hours lecture: 1

Contact hours lab: 2

Proposed or New Catalog Description (include all prerequisites):

This course covers the operation, testing, and adjustment of conventional and electronic thermostats as well as the operation of common electrical and electronic circuits used to control HVAC systems.

Course Fee \$30.00

Course Outcome Objectives:

- Analysis of circuit diagrams for electronic controls used in heating and cooling equipment
- System trouble shooting and repair of heating and cooling systems

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter Signature Chair/Dean Signature (indicates "college" level approval) Date

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 270

Course Title: Hydronic Heating and Cooling Systems

Credits: 2

Required by: Plumbing AAS Degree

Selective in:

Elective in:

General Education:

Lecture:

Lecture/Lab: X

Contact hours lecture: 1

Contact hours lab: 2

Proposed or New Catalog Description (include all prerequisites):

This course covers operating principles, piping systems, and preventive maintenance pertaining to the servicing of boilers, chillers, chilled water systems, absorption systems, steam systems, and system traps.

Course Fee \$15.00

Course Outcome Objectives:

- Performance of maintenance procedures of boiler systems
- Theory and application of balancing procedures for chilled water systems
- Balance testing of chilled water systems

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED ___ MAJOR REVISION ___ FOR INFORMATION ONLY ___

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 280

Course Title: Energy Management

Credits: 1

Required by: Plumbing AAS Degree

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 1

Contact hours lab:

Proposed or New Catalog Description (include all prerequisites):

This course explains how computer and microprocessor controls are used to manage zoned HVAC systems in residential and commercial buildings.

Course Fee \$5.00

Course Outcome Objectives:

- Interpretation of circuit diagrams
- Zone balance in commercial and residential HVAC systems

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty

COURSE REVISION FORM

NEW X DROPPED MAJOR REVISION FOR INFORMATION ONLY

College College of Technical Sciences Program Area Plumbing Date 3-31-03

Submitter _____ Chair/Dean _____ Date _____
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
NEW COURSE FOR PLUMBING DEGREE

Please provide the following information:

College:

Program Area:

Date:

Course Prefix & No.: PLMB 285

Course Title: System Startup and Shutdown

Credits: 1

Required by: Plumbing AAS Degree

Selective in:

Elective in:

General Education:

Lecture: X

Lecture/Lab:

Contact hours lecture: 1

Contact hours lab:

Proposed or New Catalog Description (include all prerequisites):

This course covers procedures for the start-up of hot water and steam heating systems and chilled water systems. Emphasis is on start-up after initial equipment installation or after an extended period of shut-down.

Course Fee \$5.00

Course Outcome Objectives:

- Application of proper procedures to prepare heating and chilling systems after initial installation
- Application of proper procedures to prepare heating and chilling systems for extended periods of shut-down
- Testing of heating and chilling systems after start-up

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Faculty