

ITS	310	Digital systems		3
MACH	3xx	CNC Programming		3
MFGT	2xx	CAD/CAM I		3
MFGT	342	CAD/CAM II		3
WELD	356	Weld Certification II		3
WELD	357	Weld Certification III		3
		Construction Emphasis (18 Cr.)		
CET	1xx	Construction Processes		3
CET	220	Construction Management & Bid Estimating		3
CET	2xx	Surveying II		3
CET	3xx	Construction Procedures		3
BUS	405	Ethics in Management & Technology		3
M	162	Applied Calculus		3
		Construction Management Emphasis (Const Emphasis Req'd) (18 Cr.)		
CET	3xx	Environmental Practices in Const		3
CET	361	Design & Details of Steel Buildings		4
CET	385	Highway Design & Construction		4
CET	411	Reinforce Concrete Design		4
CET	4xx	Construction Engineering		3
		Construction Administration Emphasis (Const Emphasis Req'd) (18 Cr.)		
BUS	250	Business Statistics		3
BUS	380	Operations Management		3
BUS	332	Human Resource Management		3
ACTG	201	Principles of Financial Accounting		3
ACTG	202	Principles of Managerial Accounting		3
BUS	350	Financial Management		3
BUS	365	International Business	(3)	
		CADD Emphasis (18 Credits)		
DRFT	1xx	3D CAD		3
DRFT	201	Architectural CAD II		3
DRFT	205	Machine Drafting		3
DRFT	356	Animation		3
DRFT	457	Architectural CAD III		3
CET	307	Structural Analysis		3
		Total		120
		Total		120

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

Updated 09/29/05

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY XX

College Technical Sciences Program Area Design Drafting A.A.S. Date 01/26/11

Submitter [Signature] Signature Dean [Signature] Signature (Indicates "college" level approval) Date 1-12-2011

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

The decision to change DRFT 316 to a 200 level class is so we can offer the class at the sophomore level. This is a very important class for the students that are receiving an AAS degree. Inventor is a very powerful program that many of our industry partners are using. We feel that it is important for the AAS students to be exposed to such a program to make them a better drafter and more employable.

Please provide the following information:

College: COTS

Program Area: Design Drafting

Date: 10/13/2010

Course Prefix & No.: DRFT2xx

Course Title: Industrial CAD Modeling

Credits: 3

Required by:

Industrial Technology B.S., Architectural CADD emphasis

Design Drafting A.A.S.

Design Drafting minor

Selective in:

Elective in:

General Education:

Lecture: XX

Lecture/Lab:

Gradable Lab:

Contact hours lecture: 1

Contact hours lab: 4

Current Catalog Description (include all prerequisites):

The student will explore advanced computer modeling techniques used in industrial design. Students will experiment with various applications in solving assigned problems. Prerequisites: DRFT 256, DRFT 356, or consent of instructor.

Proposed or New Catalog Description (include all prerequisites):

The student will explore advanced computer modeling techniques used in industrial design. Students will experiment with various applications in solving assigned problems. Prerequisites: DRFT 156

Course Outcome Objectives:

1. Further enhance the understanding of CAD applications in regards to modeling and design.
2. Develop and refine skills in:
 - a. modeling
 - b. mechanical design
 - c. parametric design and modeling

3. Introduce the student to alternative design and modeling tools.
4. Develop an understanding of the contents of parametric design and modeling

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

Updated 09/29/05

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area Industrial Technology B.S. Date 02/01/11

Submitter Virgil Hawkinson Signature _____ Dean [Signature] Signature (indicates "college" level approval) Date 11-12-2011

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

Please provide the following information:

College: COTS
Program Area: Metals Manufacturing AAS
Date: 02/01/11
Course Prefix & No.: MACH 3XX

Course Title: CNC Machining
Credits: 3

Required by: Industrial Technology B.S. Manufacturing Concentration

Selective in:
Elective in:
General Education:

Lecture:
Lecture/Lab:
Gradable Lab:
Contact hours lecture: 1
Contact hours lab: 4

Current Catalog Description (include all prerequisites):

Proposed or New Catalog Description (include all prerequisites): An introduction to the fundamentals and applications of Computer Numerical Control in machining. Course content includes machine configurations, CNC process flow, visualization of program execution, coordinate systems, types of motion, tool length compensation, and program formatting. (Prerequisites: CAPP 120 , DRFT 156, MACH 155)

Course Outcome Objectives:

Basics of CNC

- CNC machine components and configuration
- Programmable functions and accessories
- Machine coordinate system
- Workpiece coordinate system
- G - codes (preparatory function)

- M - codes (miscellaneous function)
- Absolute command (G90)
- Incremental command (G91)
- Feed rate (F function)
- Circular interpolation - circular motion (G02 and G03)
- Program zero, workpiece zero – positions of zero points
- TOOL OFFSETS
- LANGUAGE ELEMENTS OF PROGRAMMING LANGUAGE
- PROGRAM FORMATING
- WRITING CNC PROGRAMS
- How to Prepare the work piece drawing
- Steps to prepare (mark up print, machining process, calculate coordinates, selecting of tools, plan setup)
- How to define machining sequences

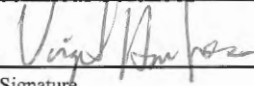
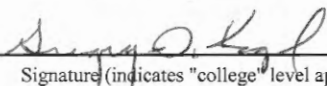
Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY **XX** _____

College Technical Sciences Program Area Manufacturing Date 02/24/11

Submitter  Dean  Date 2/12/2011
Signature Signature (indicates "college" level approval)

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

The decision to change the course number for MFGT 341 to a 200 level class is so we can offer the class at the sophomore level. The class will be taken by students in the AAS in Design Drafting and the AAS in CAD/CAM Technology, which will then lead students into the Industrial Technology B.S.

Please provide the following information:

College: COTS

Program Area: Manufacturing

Date: 02/24/2011

Course Prefix & No.: MFGT2xx

Course Title: CAD/CAM I

Credits: 3

Required by:

Industrial Technology B.S.

Design Drafting A.A.S.

Selective in:

Elective in:

General Education:

Lecture: XX

Lecture/Lab:

Gradable Lab:

Contact hours lecture: 1

Contact hours lab: 4

Current Catalog Description (include all prerequisites):

A course in the principles and applications of CAD/CAM and CNC technology. Students will solve problems associated with coordinate geometry, database exchange, G and M codes.

Proposed or New Catalog Description (include all prerequisites):

This is a course in the principles and applications of CAD/CAM, Geometric Dimensioning and Tolerancing, and CNC technology. Students will solve problems associated with coordinate geometry, database exchange, G and M codes.

Course Outcome Objectives:

- 1) understand the elements and the importance of the design process;
- 2) realize the different material, equipment, and processes involved in the production of manufactured parts and assemblies;
- 3) understand the applications of working drawings and their importance to the industrial society;

- 4) prepare working, assembly, and detail drawings;
- 5) Apply GD&T concepts
- 6) further develop CAD skills by using advanced applications and software to solve design problems;
- 7) understand, interpret, and apply drafting standards to design problems;
- 8) realize the significance of working with members of a design team; document, communicate, and log project research and submit a compiled copy.

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

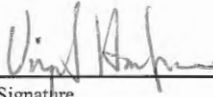
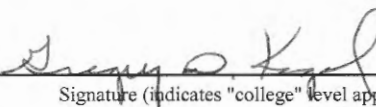
Updated 09/29/05

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area Industrial Technology: Construction Emphasis

Date 02/21/11

Submitter  Dean  Date 4-12-2011

Signature

Signature (indicates "college" level approval)

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

This is a new course to introduce students to the procedures of construction observation. It is developed for students in the Construction/ Construction Management/ Construction Administration programs. Also students in Civil Engineering Technology program and be interested in this course.

Please provide the following information:

College: College of Technical Sciences

Program Area: Industrial Technology: Construction Emphasis

Date: 02/21/11

Course Prefix & No.: CET 1xx

Course Title: Construction Processes

Credits: 3

Required by: Industrial Technology: Construction Emphasis, Construction Management Emphasis, and Construction Administration Emphasis

Selective in:

Elective in: Civil Engineering Technology

General Education: No

Lecture: 1

Lecture/Lab: 1 hr Lecture / 2 hr laboratory

Gradable Lab: No

Contact hours lecture: 1 hr/wk

Contact hours lab: 4 hr/wk

Current Catalog Description (include all prerequisites):

none

Proposed or New Catalog Description (include all prerequisites):

This course is an introduction to operations and procedures in construction. Students will be introduced to various testing procedures used in construction, compaction, concrete testing, and surveying. Students will be introduced to the various aspects of bidding documents, construction contracts, and bidding procedures. Course fee \$25.00

Course Outcome Objectives:

1. Students will conduct standardized field and laboratory testing on construction materials,
2. Students will be introduced to modern surveying methods for construction layout, and
3. Students will introduced to the construction bidding process and the documents required for bidding a construction project.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources. No additional resources required, laboratory experiments will take place in the CET lab. This course will be offered every year, based on current faculty load this may cause some faculty to teach this course in overload.

Updated 09/29/05

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area Industrial Technology: Construction Emphasis
Date 02/21/11

Submitter [Signature] Signature
Dean [Signature] Signature (indicates "college" level approval)
Date 4.12.2011

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

This is a second course in surveying. It is proposed for students in the Construction/ Construction Management/ and Construction Administration Programs. It will train students to perform construction staking, complete boundary surveys, and prepare metes and bounds descriptions. This may also be taken by students in the Civil Engineering Technology program.

Please provide the following information:

College: College of Technical Sciences

Program Area: Industrial Technology: Construction Emphasis

Date: 02/21/11

Course Prefix & No.: CET 2XX

Course Title: Surveying II

Credits: 3

Required by: Industrial Technology: Construction Emphasis, Construction Management Emphasis, and Construction Administration

Selective in: Civil Engineering Technology

Elective in:

General Education: No

Lecture: 1 hr/wk

Lecture/Lab: 1 credit lecture/ 2 credits lab

Gradable Lab: No

Contact hours lecture: 1 hr/wk.

Contact hours lab: 4 hr/wk

Current Catalog Description (include all prerequisites):

none

Proposed or New Catalog Description (include all prerequisites):

This course will cover advanced topics in engineering surveying. Topics covered include: Total Station Staking, Construction Staking, GPS Surveying, and Land Surveying. Students gain experience using electronic Total Stations and software for laboratory exercises. Prerequisite: CET 181. Course Fee \$25.00

Course Outcome Objectives:

Successful Students can conduct civil engineering experiments according to established procedures, and analyze and interpret results.

Successful Students can function effectively as a member of a multi-disciplinary team.

Successful Students can organize and deliver effective verbal, written, and graphical communications.

Successful Students can apply relevant techniques, skills and modern engineering tools to solve a simple problem.

Successful Students can solve simple problems in a specialized area of civil engineering.

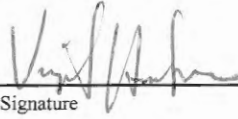
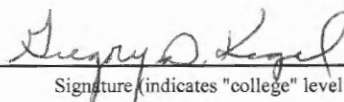
Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources. This course can be taught without any new or additional resources. If this program is successful, about 10 to 12 new students a year, it may require that the course is offered every year which will require current faculty to cover the course in overload.

Updated 09/29/05

COURSE REVISION FORM

NEW DROPPED MAJOR REVISION FOR INFORMATION ONLY

College COTS Program Area Industrial Technology: Construction Emphasis
Date 02/21/11

Submitter  Dean  Date 4.12.2011
Signature Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
Construction engineering processes: contracting and bonding, planning and scheduling, estimating and project control, productivity models, and construction econometrics.

Please provide the following information:

College: College of Technical Sciences

Program Area: Industrial Technology: Construction Emphasis

Date: 02/21/11

Course Prefix & No.: CET 3xx

Course Title: Construction Procedures

Credits: 3

Required by: Industrial Technology: Construction Emphasis, Construction Management Emphasis, and Construction Administration Emphasis

Selective in: Civil Engineering Technology

Elective in:

General Education: No

Lecture: 2 hr/wk

Lecture/Lab: 2 credits lecture/1 credit lab

Gradable Lab: No

Contact hours lecture: 2 hr/wk

Contact hours lab: 2 hr/wk

Current Catalog Description (include all prerequisites)

Proposed or New Catalog Description (include all prerequisites):

This course will cover the typical aspects to administration of typical construction contracts in the United States. Specifically, the course will cover the roles of the Owner, Engineer, and Contractor, as well as the importance of documentation on a construction project. Additional topics include preconstruction operations, claims and disputes, change orders, and project closeout. Prerequisite CET 1xx, and CET 220

Course Outcome Objectives:

Successful Students can explain key concepts and problem-solving processes used in business, public policy, and public administration.

Successful Students can analyze complex problems involving project construction and/or asset management.

Successful Students can plan, compose, and integrate the verbal, written, and graphical communication of a complex project to technical and non-technical audiences.

Successful Students can analyze a complex situation involving multiple conflicting professional and ethical interests to determine an appropriate course of action.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources. This course can be taught without any new or additional resources. If this program is successful, about 10 to 12 new students a year, it may require that the course is offered every year which will require current faculty to cover the course in overload.

Updated 09/29/05

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area Industrial Technology: Construction Management
Emphasis _____ Date 02/21/11

Submitter [Signature] Signature _____ Dean [Signature] Signature (indicates "college" level approval) _____ Date 4.12.2011

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

This course is to provide students with state-of-the-art practices in the construction industry. The course will constantly be evolving presents current construction practices. The course will present the evolution on the construction industry including the development of current environmental standards and Occupational Safety and Health Administration (OSHA) standards in construction. The course will present best managements practices pertaining to environmental protection. The course will also cover green construction practices covering Leadership in Energy and Environmental Design (LEED) certification. This course is required for students in the Industrial Technology: Construction Management Emphasis program. This course will also be taken by students in the Civil Engineering Technology program interested in construction.

Please provide the following information:

College: College Technical Sciences

Program Area: Industrial Technology: Construction Management Emphasis

Date: 02/21/11

Course Prefix & No.: CET 3XX

Course Title: Environmental Practices in Construction

Credits: 3

Required by: Industrial Technology: Construction Management Emphasis

Selective in: Civil Engineering Technology

Elective in:

General Education: No

Lecture: 3 credits

Lecture/Lab:

Gradable Lab:

Contact hours lecture:

Contact hours lab:

Current Catalog Description (include all prerequisites):

None

Proposed or New Catalog Description (include all prerequisites):

This course presents current standards in the construction industry. Topics presented in this course include; a history of construction activity leading to current environmental and OSHA policies; design of best management practices, leadership in energy and environmental design certification, and storm water management and appropriate construction practices. Prerequisites CET 1XX, CET 220, and CET 232.

Course Outcome Objectives:

1. Increase students understanding of estimating material quantities for technical projects,
2. Improve students ability of planning and preparing design and construction documents that incorporates appropriate environmental standards,
3. Improve students ability in selecting appropriate engineering materials and practices,
4. Increase students' understanding of LEED certification in the construction industry, and
5. Improve students' ability of designing best management practices in construction projects.

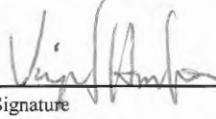
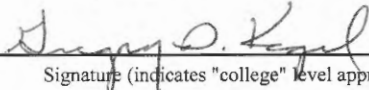
Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources. This course can be taught without any new or additional resources. If this program is successful, about 10 to 12 new students a year, it may require that the course is offered every year which will require current faculty to cover the course in overload.

Updated 09/29/05

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS _____ Program Area Industrial Technology: Construction Management
Emphasis _____ Date 02/21/11

Submitter  _____ Dean  _____ Date 4.12.2011
Signature _____ Signature (indicates "college" level approval) _____

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

This course is to teach students the concepts of Construction Engineering. Topics include; applying scientific principles to the measurement and forecasting of productivity in the construction industry which will be accomplished by utilizing mathematical formulations of labor, equipment and material factors utilized in productivity; planning construction projects utilizing optimal scheduling and controls for labor, equipment, and materials; and applying scientific principles to cost and estimates of cost which includes direct cost general overhead costs, cost markup, and profit.

Please provide the following information:

College: College of Technical Science

Program Area: Industrial Technology: Construction Management Emphasis

Date: 02/21/11

Course Prefix & No.: CET 4XX

Course Title: Construction Engineering

Credits: 3 credits

Required by: Industrial Technology: Construction Management Emphasis

Selective in: Civil Engineering Technology

Elective in:

General Education: No

Lecture: 3 credits

Lecture/Lab: credits Lecture / 0 credits lab

Gradable Lab: No

Contact hours lecture: 3 hrs/wk

Contact hours lab: None

Current Catalog Description (include all prerequisites):

none

Proposed or New Catalog Description (include all prerequisites):

The topics included in this course pertain to measurement and forecasting productivity for construction projects, planning construction projects utilizing optimal scheduling and controls, and applying scientific principles to costs and estimates of cost. Prerequisites CET 220, CET 232, CET 305, and CET 3XX

Course Outcome Objectives:

1. Improve students' ability for estimating material quantities for technical projects;
2. Improve students' ability for employing productivity software to solve technical problems;
3. Improve students' ability for performing economic analyses and cost estimates related to construction operations and maintenance of systems in the construction industry;
4. Improve students' ability for selecting appropriate construction materials and practices; and
5. Improve students' ability for planning and preparing design and construction documents, such as specifications, contracts, change orders, and construction schedules.

Additional instructional resources needed (including library materials, special equipment,