Curriculum Committee Meeting Agenda

Voting Committee Members Chair - Kristen Booth (Pre-College) Vice Chair – Zip Krummel (Social Science) Courtney Cunningham (ESL) Katy Jablonski (Wr/FL/Eng) Pam Morse (MTH) P.K. Hoffman (Arts & Hum) Ashley Mickels (CTE) Mimi Pentz (Nurs/Hlth Occ) Steve Holman (Inst Dean) Emilie Miller (Science) Non-Voting Committee Members Jarett Gilbert (VP Instructional Services) Mary Martin (Student Services/Registrar) Susan Lewis (Curriculum) Support Staff Guests Gail Gilliland (Curriculum) Andy Carmicheal, Janette Harrington, Robert Wells-Clark, Mary Kramer

November 5, 2020 3:30 pm - 5:00 pm

Zoom log-in: <u>https://cgcc.zoom.us/j/93728707956</u> Meeting ID: 937 2870 7956; phone in: 1-253-215-8782

Business:

1. Approval of October 22 minutes ¹

<u>Old Business</u>

- 1. Action Item Update
 - a. September 24 Action Items
 - i. Katy will take the writing discussion to her department. [regarding possible revision to standard prerequisites] (??)
 - b. October 8 Action Items
 - i. Steve will bring suspension information to share with the Curriculum Committee. (??)

Submissions²

- 1. Andy Carmicheal & Janette Harrington (3:45 3:55 pm)
 - ABE 80 Pre-College Math I (New Non-Credit Course)
 - GED 80 Pre-College Math I (New Non-Credit Course)
 - ABE 90 Pre-College Math II (New Non-Credit Course)
 - GED 90 Pre-College Math II (New Non-Credit Course)
- 2. Mary Kramer (3:55 4:25 pm)
 - CT 101 Tools and Shop Safety (New CTE Course)
 - CT 102 Footings and Foundations (New CTE Course)
 - CT 103 Building Materials and Methods (New CTE Course)
 - CT 104 Floor Framing (New CTE Course)
 - CT 105 Wall and Ceiling Framing (New CTE Course)
 - CT 106 Roof Framing (New CTE Course)
 - CT 110 Electrical Wiring Basics (New CTE Course)

- CT 111 Plumbing Basics (New CTE Course)
- CT 112 Basic Stair Construction (New CTE Course)
- CT 113 Building Decks and Porches (New CTE Course)
- Construction Technology (New Certificate)
- Basic Construction (New Certificate)
- 3. Robert Wells-Clark (4:25 4:55 pm)
 - MFG 151 Fabrication Processes 1 (New CTE Course)
 - MFG 152 Fabrication Processes 2 (New CTE Course)
 - MFG 156 Integrated Manufacturing 1 (New CTE Course)
 - MFG 157 Integrated Manufacturing 2 (New CTE Course)
 - MFG 281 Aluminum GTAW/TIG Fabrication Processes 1 (New CTE Course)
 - MFG 282 Aluminum GTAW/TIG Fabrication Processes 2 (New CTE Course)
 - MFG 285 Stainless Steel GTAW/TIG Welding (New CTE Course)
 - MFG 286 Stainless Steel GTAW/TIG Fabrication 1 (New CTE Course)
 - MFG 287 Stainless Steel GTAW/TIG Fabrication 2 (New CTE Course)
 - Advanced Manufacturing Technology (New Certificate)

Discussion Items:

1. none

Next Meeting: November 19, 2020

Attachments: ¹ October 22, 2020 minutes; ² Submissions: 4 New Non-Credit courses, 19 New CTE courses, 3 New Certificates;

Curriculum Committee Minutes October 22, 2020, 3:30 pm – 5:00 pm Location: Due to State Social Distancing requirements, this meeting is held via Zoom

PRESENT

Voting Committee Members

Chair – Kristen Booth (Pre-College) Vice Chair - Zip Krummel (Social Science) P.K. Hoffman (Arts & Hum) Steve Holman (Inst Dean)

Non-Voting Committee Members

Susan Lewis (Curriculum)

Support Staff

Gail Gilliland

ABSENT

Voting Committee Members

Courtney Cunningham (ESL) Mimi Pentz (Nurs/Hlth Occ) Katy Jablonski (WR/FL/Eng) Ashley Mickels (CTE) Emilie Miller (Science) Pam Morse (MTH)

Jarett Gilbert (VP Instructional Services)

<u>Guests</u>

Kevin Cole Mary Kramer

Non-Voting Committee Members

Mary Martin (Student Services)

Item	Discussion	Action
Call to Order	Meeting called to order by Chair Kristen Booth at 3:30 am	
Business		
Approve October 8, 2020		Motion: Pam
minutes		2 nd : PK
	October 8, 2020 minutes approved as written	Action: 6 in favor – 0 Opposed –
		0 abstentions
Old Business		
	Note: Jarett wanted to comment on the suspension guidelines discussion and	
	his concern that the concept of a cost benefit analysis is not necessarily	

	within the purview of the Curriculum Committee. Rather, this discussion may	
	be more suited to other leadership groups.	
Action Item Update		
a. September 24 Action Items	1.a.i. Susan is working on this; however, it may take some time. There are	
i. Susan will change the CCOG	two options: 1) manually enter the language in each of the CCOGs, close to	
header under "Texts &	400; or 2) have IT update the Course Node so that it automatically is inserted	
Materials" and	in all existing and future CCOGs. Option 2 is the ideal but requires assistance	
"Content" to read that	from IT, and she is not certain how long that may take. She will see about	
"specified texts, videos, etc are	making the manual entry into the new CCOGs for which this has particular	
suggested, not	relevance, and she will be working with IT to update the node.	
required." (In process. Header		
will have to be added to each	1.a.iii. Katy will meet with WR dept this week and discuss it this week. The	
CCOG	action item is carried over.	
individually, or IT will need to		
update the Course Node. Will		
first add		
individual entry on courses that		
currently have text and		
materials sections		
and/or texts/materials		
mentioned in their content		
sections.)		
ii. Susan will add note to the		
CCOG development template		
indicating outline		
or bullet form is required for		
description of content under		
each outcome.		
(done)		
iii. Katy will take the writing		
discussion to her department.		
[regarding possible		
revision to standard		
prerequisites] (??)		

b. October 8 Action Items i. Susan will include "Old Business" in the Curriculum Committee agenda. (done) ii. Todd Meislan will convene a meeting between the Business department and CAS instructors to get a broader idea of what would be most advantageous for the ASOT-Bus Core Requirements for Computer Application requirements. (??) iii. Steve will bring suspension information to share with the Curriculum Committee. (??)	 1.b.ii Ashley reports back from meeting of BA and CAWT in which they discussed the ASOT requirement for 8 credits of computer applications. They are proposing that the requirement be changed to: CAS 133 or BA 131 and CAS 140. This will be discussed as part of discussion item #1 which has been postponed to a future meeting. Emily enters 3:40 1.b.iii – Steve does not have the most recent draft from his former institution. We can talk about discussing in the future. Please send documents to Susan for addition onto a future agenda. Action item carried over. 	
Submissions		
AMT 191 Aviation Maintenance: General 101 (New CTE Course) with Related Instruction	Mary Kramer presents the new Aviation Maintenance Technology (AMT) program. Original intent was to build a hanger on the grounds of the Dallesport Airport; however, the funding for this has been delayed to 2022. In the meantime, the college is leasing the former Crestline building at the Port of the Dalles. The AMT program was a community driven decision. There are FAA hour requirements built into the program, as well as community college requirements. Mary introduces Kevin Cole to provide answers to technical questions about the program. The AMT program will be starting summer, 2021 with related instruction courses and AMT specific courses will start in the fall.	Motion #1: Steve 2nd: Zip Action: 7 in favor – 0 Opposed – 0 abstentions Motion #2: Zip 2nd: Steve Action: 7 in favor – 0 Opposed – 0 abstentions

	PROCEDURAL QUESTION: Steve advises the committee about the correct order for motions and discussion. A motion, with second, is to be made prior to discussion in order to correctly follow Robert's Rules of Order. The committee agrees to proceed in this manner.	
	The math requirement is questioned, as it is listed as MTH 60 in the description and MTH 65 in the requisite section. MTH 65 is correct. Description will be amended.	
	Where is the physics understanding coming from mentioned in Outcome #4? Mary informs the Curriculum Committee that it is built into the AMT courses.	
	Kevin informs the CC about aviation theory. The center of gravity of an airplane is key to flying and math and physics are key. Understanding of lift, drag, thrust are key components of flying. The courses in this program will instruct students how to apply physics.	
	Many of the courses are 6 credit courses. It is a very intense program. The FAA advised CGCC to do a 12-month program to make a distinction from Lane Community College program. CGCC is now a 15-18-month program. The program load is similar to the RET load when it began.	
	Department Impact is briefly discussed. Examples of previous department impact are CAS and BA. A current example would be the impact of AMT on the Math department. Currently MTH 105 is not offered in the summer, it is only offered in the winter. Possibly if more students are interested in signing up for it, it could be offered at a different term.	
	Motion #1: Approve as written	
	Motion #2: Amend description prerequisites to say: Prerequisite: MTH 65 or equivalent placement test scores, placement into RD 90 and WR 90 or higher. Include Related Instruction in the approval of the course.	
AMT 192 Aviation Maintenance: General 102 (New CTE Course) with Related Instruction	Brief discussion regarding when the certificate and degree should be approved. The certificate and degree cannot be approved until there the courses to be included are approved.	Motion: Steve 2nd: Pam

	Related instruction is imbedded with AMT 192. Susan informs the committee that when a submission is brought through the Curriculum Committee the Related Instruction just requires a separate from for imbedded instruction. The committee is just saying we approve that the course is included. Susan did this work for the course and Mary and Kevin counted the MTH being taught within the course. Motion: Approve as written with RI	Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 193 Aviation Maintenance: General 103 (New CTE Course) with Related Instruction	Pam moves to discuss AMT 193 and all docs included. Steve 2nds. Kristen opens AMT 193 to discussion. Brief discussion regarding Related Instruction hours. Susan clarifies that Related Instruction is just a portion of the course. Concern was expressed regarding the accountability for whether Related Instruction is being done. The RI hours are bullets from the content section which is expected to be carried out by any instructor teaching the course. In addition, the content is linked to an outcome for which assessment strategies are provided. Accountability is the same for ensuring that any required instruction is taking place in a course. Motion: Approve as written with RI	Motion: Pam 2nd: Steve Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 194 Aviation Maintenance: General 104 (New CTE Course)	Katy moves to open discussion and Pam 2nds. Kristen opens discussion of AMT 194. Mary informs the Curriculum Committee that this course needs to be split between two terms, hence the reason for the additional AMT 194A and AMT 194B. AMT 194 is being submitted in anticipation of any future need to offer the entirety of 194 in one term. Motion: Approve as written	Motion: Katy 2nd: Pam Action: 7 in favor – 0 Opposed – 0 abstentions

AMT 194A Aviation Maintenance: General 104A (New CTE Course)	Steve moves to open discussion and Pam 2nds. Kristen opens AMT 194 A to discussion. Mary informs the Curriculum Committee that this is the first part of the previous course AMT 194. Motion: Approve as written	Motion: Steve 2nd: Pam Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 194B Aviation Maintenance: General 104B (New CTE Course)	 Katy moves to open discussion, Steve 2nds. Kristen opens AMT 194B to discussion. Brief discussion ensues regarding prerequisites 194 and 194A. These course prerequisites are written this way in case AMT 194A and 194B are offered at the same time. This probably will never be used as the option is available to offer AMT 194 instead. 	Motion: Katy 2nd: Steve Action: 7 in favor – 0 Opposed – 0 abstentions
	Motion: Approve as written	
AMT 195 Aviation Maintenance: General 105 (New CTE Course)	Steve moves to open discussion, Zip 2nds. Kristen opens AMT 195 to discussion Brief discussion regarding AMT 194 as a prerequisite. Prereq section should match what is written in the description: AMT 194 or (AMT 194A and AMT 194B). Motion: Approve as written	Motion: Steve 2nd: Zip Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 261 Aviation Maintenance: Airframe 1 (New CTE Course)	Steve moves to open discussion, Emilie 2nds. Kristen opens AMT 261 to discussion Brief discussion regarding the line under transferability that it is comparable to Lane Community College	Motion: Steve 2nd: Emilie Action: 7 in favor – 0 Opposed – 0 abstentions
	Motion: Approve as written	
ANT 262 Aviation Maintenan	Katu mayor to anon discussion. Dom 2nds. Kristen anons AMT 202 to	Motion: Katy
Airframe 2 (New CTE Course)	discussion.	2nd: Pam

	Motion: Approve as written	Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 263 Aviation Maintenance: Airframe 3 (New CTE Course) with Related Instruction	Zip moves to open discussion, Steve 2nds. Kristen opens AMT 263 to discussion. Motion: Approve as written with RI	Motion: Zip 2nd: Steve Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 264 Aviation Maintenance: Airframe 4 (New CTE Course)	Steve moves to open discussion, Emilie 2nds. Kristen opens AMT 264 to discussion Motion: Approve as written	Motion: Steve 2nd: Emilie Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 271 Aviation Maintenance: Powerplant 1 (New CTE Course)	Steve moves to approve discussion, Pam 2nds. Kristen opens AMT 271 to discussion Brief discussion regarding prerequisite AMT 195. Motion: Approve as written	Motion: Steve 2nd: Pam Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 272 Aviation Maintenance: Powerplant 2 (New CTE Course)	Steve moves to approve discussion, Pam 2nds. Kristen opens AMT 272 to discussion Motion: Approve as written	Motion: Steve 2nd: Pam Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 273 Aviation Maintenance: Powerplant 3 (New CTE Course)	Steve moves to approve, Pam 2nds. Kristen opens AMT 273 to discussion. Brief discussion ensued regarding elective transferability. AMT 273 would transfer to university as a CTE elective Motion: Approve as written	Motion: Steve 2nd: Pam Action: 7 in favor – 0 Opposed – 0 abstentions
AMT 274 Aviation Maintenance: Powerplant 4 (New CTE Course)	enance: Katy moves to approve, Pam 2nds. Kristen opens AMT 274 discussion. Motion: Katy 2nd: Pam Course) Motion: Approve as written 2nd: Pam	

		Action: 7 in favor – 0 Opposed –
AMT 281 Aviation Maintenance:	Pam moves to approve, Emilie 2nds. Kristen opens the discussion.	Motion: Pam
Airframe Return to Service	Motion: Approve as written	2nd: Emilie
(New CTE Course)		Action: 7 in favor – 0 Opposed –
		0 abstentions
AMT 282 Aviation Maintenance:	Steve moves to approve Zin 2nds Kristen opens AMT 282 discussion	Motion: Stave
Powerplant Return to Service		2nd: Zip
(New CTE Course)	Brief discussion ensues why so many courses do not transfer. AMT 282 is	Action: 7 in favor – 0 Opposed –
	more of a work experience course.	0 abstentions
	Motion: Approve as written	
Aviation Maintenance	Steve makes a motion to approve the degree and all the courses that have	Motion: Steve
Technology AAS (New Degree)	been approved beforehand. Zip 2nds	2nd: Zip
	Motion: Approve as written	0 abstentions
	Brief discussion ensues regarding graduation rates at Lane and PCC. Mary	
	informs the Curriculum Committee that Lane has 80% graduation rate and	Amendment: Steve
	Lane attributes the success rate to the cohort.	2 nd : Ashley
	25 student maximum in the cohort. CGCC will probably start at 12-15	Action: 7 in favor – 0 opposed –
	students. Kevin Cole informs the Curriculum Committee that the FAA has a	0 abstentions
	stipulation that one instructor can only have 25 students. This program could	
	grow. Students do not need to start as a cohort.	
	Noted that the inclusion of MTH 98 as a program prerequisites option is	
	incorrect. AMT 191 requires MTH 65 or equivalent placement test scores.	
	The reference to with 98 should be removed from program requisites.	
	MTH 98 is only offered in fall, so if this is something that is needed, Math	
	Krummel. Social Science department chair will need to know the AMT needs. ZIP	

	for PSY 101 as well. Mary Kramer will follow up with Pam and Zip. Math does not have the staff to fill this summer. Mary appreciates the notification.	
	The AAS is the same as the certificate, except for the 8 credits of Gen Ed in fall, 2 nd year. The additional 8 credits of required General Education required for an AAS is provided by MTH 105 and PSY 101.	
	Advertising takes place after all the State and NWCCU approvals. Approvals should be in late spring.	
	How will teaching take place in light of the pandemic. This program has been developed to be a F2F program. We will deal with Covid next fall.	
	Amendment to the Motion Amendment: to approve the degree and previous courses with the "or MTH 98" option removed from the program prerequisites.	
	In the future Steve would like the certificate included with the degree. Susan would like the certificate and degree voted on separately.	
Aviation Maintenance Technology (New Certificate) with Related Instruction Template	Zip moves with the removal of Math 98 from the prerequisite of the certificate. Katy 2nds Extensive discussion about voting on the Related Instruction Template. It is included in the approval of the certificate, similar to how the RI submissions are included as part of the course. The template asks if the Related Instruction has been approved for all courses in the certificate that include embedded RI. That approval happened when the course was approved, so no additional vote of approval is needed here. Motion: Approve as amended Amendment: to approve the degree and previous courses with the "or MTH 98" option removed from the program prerequisites.	Motion: Zip 2nd: Katy Action: 7 in favor – 0 Opposed – 0 abstentions
Discussion Items:		

Tentative item (dependent on progress toward Action Item ii for October 8): ASOT-BUS General Requirements 3, 4, 5 (4:45 – 4:55 pm) (Postponed)	Postponed	
Addition of MTH 110 Technical Math as a Computation standalone option for Related Instruction 6	Suggested that technical math course, may be more appropriate choice to fulfill RI in the AMT certificate. Mary K. would not be surprised if we move in that direction, but would like to leave the program as is and then later check out Math 110 as an option for the students. Pam has no objections. MTH 110 meets the MTH computation definition.	Motion: Zip 2nd: Steve Action: 7 in favor – 0 Opposed – 0 abstentions
	Motion: include MTH 110 Technical Math as a Computation standalone option for Related Instruction	
Meeting Adjourn: 5:00	Zip Moves, Katy 2nd	
Next Meeting: November 5, 2020		

CC date

CC decision CC vote

New Course – Non-Credit

SECTION #1 GENERAL INFORMATION						
Pre-College ESOL Other						
Department:	Pre-College	Submitter n Phone Email	ame	Janette H 541-993- jharringto	arrington 0915 on@cgcc.edu	
Course Prefix and Number:	ABE 80	Course Title 60 characte	e: rs max		Pre-College Mat	h l
	🖂 Yes			Lecture (# of hours): 55	
Can this class	🗌 No	Contact hou	ırs	Lec/Lab (# of hours):	
	How many times? 99			Lab (# of	hours):	
Reason for new course		This is not a new course. Pre-college has opted into the CGCC curriculum committee review process. Additionally, this helps meet state requirements regarding Oregon Adult College and Career Readiness Standards. This is a course designed to prepare students for Math II and ultimately earn their GED or place as high as possible on the Next Generation Accuplacer.				
Is this course equivalent to another? If yes,		🖂 Yes	Yes Course Number and Title			
they must have the same description and outcomes.		GED 80 Pre-College Math I				
REQUISITES: Identify prerequisite, corequisite, and concurrent course(s)						
Course prefix & number:			pre/con			
Course prefix & I	number:		prei	requisite	corequisite	pre/con
Placement into:						
Placement into:						
COURSE DESCRIPTION : Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Focuses on number sense and operations, including integers, fractions, ratios/proportions, decimals and percent. Includes a solid understanding of charts, graphs, and measurements. Introduces statistics, algebra, and geometry. This is the first course in a two-course series that prepares students for taking the math portion of the GED exam or entry-level credit math courses.						

	the current website.			
Learning Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:			
	1. Apply common types of mathematical skills to real life problems involving whole and rational numbers.			
	2. Use the T1-30XS calculator to solve a variety of mathematical problems.			
	3. Interpret charts, graphs and data to answer real life mathematical problems.			
	4. Solve measurement and common geometry problems through the use of mathematical procedures and technology.			
	5. Interpret and apply basic probability concepts.			
	6. Apply a variety of test-taking skills when solving multiple choice questions.			
Outcomes assessment strategies:	Student must have a 70% knowledge of required material, as reflected in daily quizzes, and unit tests (based on Steck-Vaughn Mathematical Reasoning textbook and GED-R questions), in order to move into pre-college Math II or Math 60.			

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

	1. Apply common types of mathematical skills to real life problems involving whole and rational numbers.
	 Incorporate the following mathematical operations and concepts: whole numbers, basic operations, fractions, measurements, percent, ratio, proportions, pre-geometry, statistics, charts, graphs.
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Teach students to look at a word problem and ask - What's the question? What operations do I use? Is there any extraneous information?
	 2. Use the T1-30XS calculator to solve a variety of mathematical problems. Incorporate the following mathematical operations and concepts: whole numbers, basic operations, integers, fractions, decimals, measurements, percent, ratio, proportions, pre-geometry, statistics, charts, graphs. Use of estimation to confirm calculator results

	 3. Interpret charts, graphs and data to answer real life mathematical problems. Incorporate the following mathematical operations and concepts: statistics, charts, graphs, basic operations, whole numbers, Review problem solving skills, such as reading the title first, then looking at the x, y axis when appropriate. Verbalize the represented material shown in a chart or graph.
	 4. Solve measurement and common geometry problems through the use of mathematical procedures and technology. Incorporate the following mathematical operations and concepts: whole numbers, basic operations, fractions, decimals, measurements, pre-geometry Provide an introduction to a variety of measurement tools (ruler, tape measure, scales)
	 5. Interpret and apply basic probability concepts. Incorporate the following mathematical operations and concepts: whole numbers, fractions, percent, ratio, proportion, statistics, charts, graphs Apply real life situations for probability concepts. (May include a variety of in-class activities that use items like coins, skittles, dice.)
	 6. Apply a variety of test-taking skills when solving multiple choice questions. Evaluate an answer as to whether or not it is reasonable. Work backwards, using the given answers to a test question. Determine the operation(s) to be used by replacing mixed numbers with whole numbers. Draw a picture.
	Text & Materials
Department Notes (optional)	Note: While we, the instructors, and those who fund this program look to a greater understanding of math in our students, the student wishes to pass "the test." Therefore, the teaching of the above outcomes includes use of the Steck-Vaughn materials, since these questions best mimic those on the GED and other tests.
	Additionally, the Pre-College Department recommends instructors to teach according to the Oregon Adult College and Career Readiness Standards (OACCRS)
	OACCRS Handbook for Math https://www.oregon.gov/highered/institutions-programs/ccwd/Documents/Mathematics%20Standards%20Handbook.pdf.pdf
	Resources suggested in the handbook are listed below:
	 Grade 4 Mathematics. (n.d.). Retrieved July 1, 2019, from https://www.engageny.org/resource/grade- 4- mathematics-module-5- topic-d-overview Engage NY
	 Math Curriculum. (n.d.). Retrieved from https://openupresources.org/math-curriculum/ Illustrative Mathematics Utah Education Network Open-Up Resources
	 MyOpenMath. (n.d.). Retrieved July 1, 2019, from https://www.myopenmath.com/

0	Open Middle®. (n.d.). Retrieved July 1, 2019, from https://www.openmiddle.com/ Challenging math problems worth solving
0	Desmos. (n.d.). Retrieved July 1, 2019, from https://www.desmos.com/ Explore math with desmos.
0	Open Education Resources Commons. (n.d.). Retrieved July 1, 2019, from https://www.oercommons.org/
0	Lessons. (n.d.). Retrieved July 1, 2019, from https://robertkaplinsky.com/lessons/ Robert Kaplinsky
0	When Math Happens. (2019, January 04). Retrieved July 1, 2019, from https://whenmathhappens.com/3-act-math/ 200
0	Virtual Nerd. (n.d.). Retrieved July 1, 2019, from https://www.virtualnerd.com/
0	Illuminations: Lessons. (n.d.). Retrieved from https://illuminations.nctm.org/LessonsActivities.aspx; The National Council of Teachers of Mathematics

SECTION #2 ADDITIONAL INFORMATION FOR NEW NON-CREDIT COURSES		
Briefly describe how this course prepares students for entry into credit programs	This course teaches basic math skills that will prepare students for more advanced math courses. It will also teach test taking skills that apply to the GED and college placement tests.	
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, explain and/or describe the nature of acknowledgements and/or agreements that have been reached.	no	
Have you consulted with the Department Chair(s) of other program(s) regarding potential impact such as content overlap, duplication, prerequisites, enrollment impact etc. If yes, explain and/or describe the nature of acknowledgements or agreements that have been reached.	no	
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	∑ Yes date: 09-28-20 □ No	

Implementation term:

\boxtimes
\square

Next available term after approval

Specify term (if after next available term):

Allow 1-2 months to complete the new non-credit course approval process before the course may be scheduled.

SECTION #3 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date
Janette Harrington	jharrington@cgcc.edu	10.28.20
Department Chair (enter name of department chair): Andrew Carmicheal		
Department Dean (enter name of department dean): Mary Kramer		

- 1. Save this document as the course prefix and number (e.g. MTH 65 or RET 112). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date

CC decision CC vote

New Course – Non-Credit

SECTION #1 GENERAL INFORMATION						
Pre-College ESOL NCTC Other						
Department: Pre-College		Submitter nameJanette HarringtonPhone541-993-0915Emailjharrington@cgcc.edu				
Course Prefix and Number:	GED 80	Course Title: 60 character	s max	Pre-College Math I		
	Yes	Lecture (# of hours): 55				
Can this class	🗌 No	Contact hour	rs	Lec/Lab (# of hours):	
	How many times? 99			Lab (# of hours):		
This is not a new course. Pre-college has opted into the CGCC curriculum committee review process. Additionally, this helps meet state requirements regarding Oregon Adult College and Career Readiness Standards. This is a course 			into the ditionally, regon Adult a course imately earn ext			
Is this course equ	vivalent to another? If yes,	🖂 Yes		Course N	umber and Title	
they must have t outcomes.	he same description and	No ABE 80 Pre-College Math I				
REQUISITES: Ider	ntify prerequisite, corequisite,	and concurre	nt cours	se(s)		
Course prefix & number:			pre/con			
Course prefix & i	number:		🗌 prei	requisite	corequisite	pre/con
Placement into:						
Placement into:						
COURSE DESCRIPTION : Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Focuses on number sense and operations, including integers, fractions, ratios/proportions, decimals and percent. Includes a solid understanding of charts, graphs, and measurements. Introduces statistics, algebra, and geometry. This is the first course in a two-course series that prepares students for taking the math portion of the GED exam or entry-level credit math courses.						

writing <u>Ceaning outcomes</u> on the carried an website.			
Learning Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:		
	1. Apply common types of mathematical skills to real life problems involving whole and rational numbers.		
	2. Use the T1-30XS calculator to solve a variety of mathematical problems.		
	3. Interpret charts, graphs and data to answer real life mathematical problems.		
	 Solve measurement and common geometry problems through the use of mathematical procedures and technology. 		
	5. Interpret and apply basic probability concepts.		
	6. Apply a variety of test-taking skills when solving multiple choice questions.		
Outcomes assessment strategies:	Student must have a 70% knowledge of required material, as reflected in daily quizzes, and unit tests (based on Steck-Vaughn Mathematical Reasoning textbook and GED-R questions), in order to move into pre-college Math II or Math 60.		

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

	1. Apply common types of mathematical skills to real life problems involving whole and rational numbers.
	 Incorporate the following mathematical operations and concepts: whole numbers, basic operations, fractions, measurements, percent, ratio, proportions, pre-geometry, statistics, charts, graphs.
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Teach students to look at a word problem and ask - What's the question? What operations do I use? Is there any extraneous information?
	 2. Use the T1-30XS calculator to solve a variety of mathematical problems. Incorporate the following mathematical operations and concepts: whole numbers, basic operations, integers, fractions, decimals, measurements, percent, ratio, proportions, pre-geometry, statistics, charts, graphs. Use of estimation to confirm calculator results

	 3. Interpret charts, graphs and data to answer real life mathematical problems. Incorporate the following mathematical operations and concepts: statistics, charts, graphs, basic operations, whole numbers, Review problem solving skills, such as reading the title first, then looking at the x, y axis when appropriate. Verbalize the represented material shown in a chart or graph.
	 4. Solve measurement and common geometry problems through the use of mathematical procedures and technology. Incorporate the following mathematical operations and concepts: whole numbers, basic operations, fractions, decimals, measurements, pre-geometry Provide an introduction to a variety of measurement tools (ruler, tape measure, scales)
	 5. Interpret and apply basic probability concepts. Incorporate the following mathematical operations and concepts: whole numbers, fractions, percent, ratio, proportion, statistics, charts, graphs Apply real life situations for probability concepts. (May include a variety of in-class activities that use items like coins, skittles, dice.)
	 6. Apply a variety of test-taking skills when solving multiple choice questions. Evaluate an answer as to whether or not it is reasonable. Work backwards, using the given answers to a test question. Determine the operation(s) to be used by replacing mixed numbers with whole numbers. Draw a picture.
	Text & Materials
Department Notes (optional)	Note: While we, the instructors, and those who fund this program look to a greater understanding of math in our students, the student wishes to pass "the test." Therefore, the teaching of the above outcomes includes use of the Steck-Vaughn materials, since these questions best mimic those on the GED and other tests.
	Additionally, the Pre-College Department recommends instructors to teach according to the Oregon Adult College and Career Readiness Standards (OACCRS)
	OACCRS Handbook for Math https://www.oregon.gov/highered/institutions-programs/ccwd/Documents/Mathematics%20Standards%20Handbook.pdf.pdf
	Resources suggested in the handbook are listed below:
	 Grade 4 Mathematics. (n.d.). Retrieved July 1, 2019, from https://www.engageny.org/resource/grade- 4- mathematics-module-5- topic-d-overview Engage NY
	 Math Curriculum. (n.d.). Retrieved from https://openupresources.org/math-curriculum/ Illustrative Mathematics Utah Education Network Open-Up Resources
	 MyOpenMath. (n.d.). Retrieved July 1, 2019, from https://www.myopenmath.com/

0	Open Middle®. (n.d.). Retrieved July 1, 2019, from https://www.openmiddle.com/ Challenging math problems worth solving
0	Desmos. (n.d.). Retrieved July 1, 2019, from https://www.desmos.com/ Explore math with desmos.
0	Open Education Resources Commons. (n.d.). Retrieved July 1, 2019, from https://www.oercommons.org/
0	Lessons. (n.d.). Retrieved July 1, 2019, from https://robertkaplinsky.com/lessons/ Robert Kaplinsky
0	When Math Happens. (2019, January 04). Retrieved July 1, 2019, from https://whenmathhappens.com/3-act-math/ 200
0	Virtual Nerd. (n.d.). Retrieved July 1, 2019, from https://www.virtualnerd.com/
0	Illuminations: Lessons. (n.d.). Retrieved from https://illuminations.nctm.org/LessonsActivities.aspx; The National Council of Teachers of Mathematics

SECTION #2 ADDITIONAL INFORMATION FOR NEW NON-CREDIT COURSES		
Briefly describe how this course prepares students for entry into credit programs	This course teaches basic math skills that will prepare students for more advanced math courses. It will also teach test taking skills that apply to the GED and college placement tests.	
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, explain and/or describe the nature of acknowledgements and/or agreements that have been reached.	no	
Have you consulted with the Department Chair(s) of other program(s) regarding potential impact such as content overlap, duplication, prerequisites, enrollment impact etc. If yes, explain and/or describe the nature of acknowledgements or agreements that have been reached.	no	
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	∑ Yes date: 09-28-20 □ No	

Implementation term:

\boxtimes
\square

Next available term after approval

Specify term (if after next available term):

Allow 1-2 months to complete the new non-credit course approval process before the course may be scheduled.

SECTION #3 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Janette Harrington	jharrington@cgcc.edu	10.28.20	
Department Chair (enter name of department chair): Andrew Carmicheal			
Department Dean (enter name of department dean): Mary Kramer			

- 1. Save this document as the course prefix and number (e.g. MTH 65 or RET 112). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date

CC decision CC vote

New Course – Non-Credit

SECTION #1 GENERAL INFORMATION						
	Pre-College	ESOL NCTC Other				
Department: Pre-College		Submitter name Phone Email		Andrew Carmicheal 541-400-9797 <u>acarmicheal@cgcc.edu</u>		
Course Prefix and Number:	ABE 90	Course Title: 60 characters max		Pre-College Math II		
Can this class be repeated?		L Contact hours		Lecture (Lec/Lab Lab (# of	Lecture (# of hours): 55 Lec/Lab (# of hours): Lab (# of hours):	
Reason for new o	This is not a new course. Pre-College has opted into the CGCC curriculum committee review process. Additionally, this helps meet state requirements regarding Oregon Adult College and Career Readiness Standards. This is a course designed to help students earn their GED or place as high as possible on the Next Generation Accuplacer.					
ls this course equ	vivalent to another? If yes,	🖂 Yes		Course N	lumber and Title	
they must have t outcomes.	he same description and	No		GED 90 Pre-College Math II		
REQUISITES: Ide	and concurr	ent cours	se(s)			
Course prefix & number: GED 80 or ABE 80 (final exam score of 70% or higher)				pre/con		
Course prefix &	number:		🗌 pre	requisite	corequisite	pre/con
Placement into: (CASAS math score of 225 or hi	igher				
Placement into:						
COURSE DESCRIPTION : Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Builds upon the skills gained in Pre-College Math I. Strengthens students' mathematical skills in algebra, geometry and use of the coordinate grid using a variety of written materials, classroom activities and assignments. Prepares students for entry into credit bearing college math courses and/or taking the mathematical portion of the GED test. Prerequisites: ABE 80 or GED 80 with final exam score of 70% or higher, or CASAS math score of 225 or higher.						

	Upon successful completion of this course, students will be able to:
	 Earn, at a minimum, 200 on the arithmetic portion of the Next Generation Accuplacer college placement test, and/or a passing score of 145 on the GED math exam.
Learning Outcomes: (Use observable and	2. Solve problems with one or more variables using linear models.
measurable verbs)	Recognize the connection between graphs and algebra and solve problems both symbolically and graphically.
	4. Apply mathematical reasoning to real world situations.
	5. Solve problems of geometry including perimeter, area and volume.
	Daily quizzes
Outcomes assessment	Unit Review Quizzes
strategies:	 Homework completion with a success rate of 70%
J • • •	• Ged-ready practice tests (a score of 150 would indicate that it's time to take the official GED Math exam.)

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

	1.	Earn, at a minimum, 200 on the arithmetic portion of the Next Generation
		Accuplacer college placement test, and/or a passing score of 145 on the GED
		math exam.
		• Students earn at a minimum a 150 on the GED practice math exam.
Course Content –		Test taking strategies
organized by outcomes	2.	Solve problems with one or more variables using linear models.
(list each outcome		Inverse Operations
followed by an outline		 Adding/Subtracting, Multiplying dividing variables
of the related content):		Order of Operations
		Two variable- linear combination, substitution, lowest common
		multiple
	3.	Recognize the connection between graphs and algebra and solve problems
		both symbolically and graphically.

	Plot points on a graph
	 Inequalities
	 Distance between points with Pythagorean and formula
	Slope
	• Foil
	Intro to Quadratic
	4. Apply mathematical reasoning to real world situations.
	Arithmetic
	 Adding/Subtracting, multiplying/dividing fractions
	 Keywords in math word problems
	Algebraic/ geometric word problems
	Functions
	5. Solve problems of geometry
	Surface Area
	Perimeter
	• Area
	Volume
	Radius, diameter, circumference
	Suggested Texts & Materials
Department Notes (optional)	 Steck-Vaughn Mathematical Reasoning Test Preparation for the 2014 GED Test Student Book
(Steck-Vaughn Mathematical Reasoning Test Preparation for the 2014 GED Test WorkBook

SECTION #2 ADDITIONAL INFORMATION FOR NEW NON-CREDIT COURSES			
Briefly describe how this course prepares students for entry into credit programs	This class is closely aligned with Math 65. It teaches concepts that lead students into Math 95.		
IMPACT ON OTHER PROGRAMS AND	DEPARTMENTS		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, explain and/or describe the nature of acknowledgements and/or agreements that have been reached.	ABE 90 Pre-college Math II – the ABE version of this course preparing students for entry into college level courses through Accuplacer Next Gen testing. ABE 90 and GED 90 are taught together and are equivalent. Math 65 is similar. No specific agreements have been reached. Informal discussions with Math department instructors have led to content decisions		
Have you consulted with the Department Chair(s) of other program(s) regarding potential impact such as content overlap, duplication, prerequisites, enrollment impact etc. If yes, explain and/or describe the nature of acknowledgements or	no		

agreements that have been reached.	
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	⊠ Yes date: 09-28-20 □ No
Implementation term:	 Next available term after approval Specify term (if after next available term): Spring, 2021

Allow 1-2 months to complete the new non-credit course approval process before the course may be scheduled.

SECTION #3 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Andrew Carmicheal	acarmicheal@cgcc.edu	10.28.20	
Department Chair (enter name of department chair): Andrew Carmicheal			
Department Dean (enter name of department dean): Mary Kramer			

- 1. Save this document as the course prefix and number (e.g. MTH 65 or RET 112). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date

CC decision CC vote

New Course – Non-Credit

SECTION #1 GENERAL INFORMATION						
	Pre-College] ESOL	ESOL NCTC Other			
Department: Pre-College		Submitter name Phone Email		Andrew Carmicheal 541-400-9797 <u>acarmicheal@cgcc.edu</u>		
Course Prefix and Number:	GED 90	Course Title: 60 characters max			Pre-College Math II	
Can this class be repeated?	Lass No ed? How many times? 99		Contact hours Lec Lab		Lecture (# of hours): 55 Lec/Lab (# of hours): Lab (# of hours):	
Reason for new c	This is not a new course. Pre-college has opted into the CGCC curriculum committee review process. Additionally, this helps meet state requirements regarding Oregon Adult College and Career Readiness Standards. This is a course designed to help students earn their GED or place as high as possible on the Next Generation Accuplacer.					
ls this course equ they must have they outcomes.	Yes Course Number and Title No ABE 90 Pre-College Math II		I			
REQUISITES: Ider	and concurr	ent cours	se(s)			
Course prefix & r score of 70% or h	number: GED 80 or ABE 80 (fir nigher)	nal exam	🛛 pre	requisite	corequisite	pre/con
Course prefix & r	number:		prerequisite corequisite		pre/con	
Placement into: (Placement into: CASAS math score of 225 or higher					
Placement into:						
COURSE DESCRIPTION : Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Builds upon the skills gained in Pre-College Math I. Strengthens students' mathematical skills in algebra, geometry and use of the coordinate grid using a variety of written materials, classroom activities and assignments. Prepares students for entry into credit bearing college math courses and/or taking the mathematical portion of the GED test. Prerequisites: ABE 80 or GED 80 with final exam score of 70% or higher, or CASAS math score of 225 or higher.						

<u>Intering Deteories</u> of the confectant (Costice)				
	Upon successful completion of this course, students will be able to:			
Learning Outcomes:	 Earn, at a minimum, 200 on the arithmetic portion of the Next Generation Accuplacer college placement test, and/or a passing score of 145 on the GED math exam. 			
(Use observable and	2. Solve problems with one or more variables using linear models.			
measurable verbs)	Recognize the connection between graphs and algebra and solve problems both symbolically and graphically.			
	4. Apply mathematical reasoning to real world situations.			
	5. Solve problems of geometry including perimeter, area and volume.			
	Daily quizzes			
Outcomos assassment	Unit Review Quizzes			
strategies:	 Homework completion with a success rate of 70% 			
	 Ged-ready practice tests (a score of 150 would indicate that it's time to take the official GED Math exam.) 			

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Course Content –	 Earn, at a minimum, 200 on the arithmetic portion of the Next Generation
organized by outcomes	Accuplacer college placement test, and/or a passing score of 145 on the GED
(list each outcome	math exam. Students earn at a minimum a 150 on the GED practice math exam. Test taking strategies Solve problems with one or more variables using linear models. Inverse Operations Adding/Subtracting, Multiplying dividing variables Order of Operations Two variable- linear combination, substitution, lowest common
followed by an outline	multiple Recognize the connection between graphs and algebra and solve problems
of the related content):	both symbolically and graphically. Plot points on a graph

	Inequalities
	 Distance between points with pythagorean and formula
	Slope
	• Foil
	Intro to Quadratic
	4. Apply mathematical reasoning to real world situations.
	Arithmetic
	 Adding/Subtracting, multiplying/dividing fractions
	 Keywords in math word problems
	 Algebraic/ geometric word problems
	• Functions
	5. Solve problems of geometry
	Surface Area
	Perimeter
	Area
	Volume
	Radius, diameter, circumference
	Suggested Texts & Materials
Department Notes (optional)	
	Steck-Vaughn Mathematical Reasoning Test Preparation for the 2014 GED
	lest Student Book
	Steck-Vaughn Mathematical Reasoning Test Preparation for the 2014 GED
	Test WorkBook

SECTION #2 ADDITIONAL INFORMATION FOR NEW NON-CREDIT COURSES				
Briefly describe how this course prepares students for entry into credit programs	This class is closely aligned with Math 65. It teaches concepts that lead students into Math 95.			
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				
Are there similar courses existing in other programs or disciplines at CGCC? If yes, explain and/or describe the nature of acknowledgements and/or agreements that have been reached.	ABE 90 Pre-college Math II – the ABE version of this course preparing students for entry into college level courses through Accuplacer Next Gen testing. ABE 90 and GED 90 are taught together and are equivalent. Math 65 is similar. No specific agreements have been reached. Informal discussions with Math department instructors have led to content decisions.			
Have you consulted with the Department Chair(s) of other program(s) regarding potential impact such as content overlap, duplication, prerequisites, enrollment impact etc. If yes, explain and/or describe the nature of acknowledgements or agreements that have been	no			

reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	∑ Yes date: 09-28-20 □ No		
Implementation term:	 Next available term after approval Specify term (if after next available term): Spring, 2021 		
Allow 1. Description to a second state the second second state second seco			

Allow 1-2 months to complete the new non-credit course approval process before the course may be scheduled.

SECTION #3 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date		
Andrew Carmicheal	acarmicheal@cgcc.edu	10.28.20		
Department Chair (enter name of department chair): Andrew Carmicheal				
Department Dean (enter name of department dean): Mary Kramer				

- 1. Save this document as the course prefix and number (e.g. MTH 65 or RET 112). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	RAL INFO	RMATION				
Department:	CTE		Submitter name phone and email	M m	Mary Kramer <u>mkramer@cgcc.edu</u>	
Prefix and Course Number:		CT 101	Credits:		3	
Course Title: (60 characters max, including spaces)	Tools and Shop Safety		Transcript Title: (30 characters max, including spaces)		Tools and Shop Safety	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descu	llent to and	other? They must comes and credit.	☐ Yes ⊠ No	Pr	efix, numbe	r and title:
Reason for the new course.	To be inc	luded in the new Cons	truction Technology	and E	Basic Constru	uction certificates.
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
	Check all that apply Default (Choose one)					
A-F (letter grade))			\boxtimes
Pass/No pass		s 🛛				
Audit in consultation with facult		y 🛛				
REQUISITES: Identif	y prerequi	site, corequisite and co	oncurrent course(s)			
Standard requisi	tes – Prere Prere	equisite: MTH 20 or eq	uivalent placement to R 121	est sc	ores.	
placement into:	There		placement inte	D:		
course prefix & number: RD 90, WR 90 or equivalent			prerequisite	c	orequisite	pre/co
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores				pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Explores hand tools and power tools used in the construction trades. Identifies common tools and how to select the correct tool for the task. Introduces ladders and scaffolding and their safe use. Covers common fall hazards – how to recognize and control them to protect yourself. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

)				
Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:			
	1. Safely and effectively operate hand and power tools used in the construction industry.			
	2. Maintain hand and power tools for safe, effective use and longevity.			
	3. Utilize life line for fall protection.			
	4. Identify ladder types and maintenance procedures for safe use.			
	5. Apply scaffolding safety rules when assembling the components of a scaffold.			
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.			

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Safely and effectively operate hand and power tools used in the construction industry. Wear appropriate personal protective equipment at all times Keep power cords from presenting a tripping hazard Use a ground fault circuit interrupter (GFCI) or an assured grounding for all power tools Practice proper transport of tools Hand tools to be introduced include, but are not limited to measuring tape and measuring, clamps/grip tools, types and uses for hammers, screwdrivers, pliers. Power tools to be introduced include, but not limited to band saw, miter saw, table saw, circular saw, drill press, planer, jointer, router, boring machine, belt sander, nail guns, air compressor Maintain hand and power tools for safe, effective use and longevity. Clean tools before storing Recognize lubrication needs of select tools

	 Inspect tools before use Utilize life line for fall protection Recognizing situations that indicate the need for the use of a life line Properly apply personal fall arrest systems Utilize fall protection systems and their components Identify ladder types and maintenance procedures for safe use Perform proper ladder placement Maintain a ladder for safe use Apply correct, safe procedures for erecting ladders and extensions Apply scaffolding safety rules when assembling the components of a scaffold Follow OSHA standards for assembling and disassembling scaffolding Identify double-pole and single-pole scaffolds Identify components of a scaffold assembly and erection Describe the purpose and use of roof brackets for steep slopes Utilize a trestle jack
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)				
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.				
Will this new course be part of existing, currently approved CGCC certificate(s) Yes and/or degree(s)? No				
Name of certificate(s):		# credit:		
Name of degree(s):		# credit:		
Will this new course be part of a new, proposed CGCC certificate or degree? Yes No				
Name of now cartificate(s):	Construction Technology	# credit: 33		
Name of new certificate(s).	Basic Construction	# credit: 18		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course			
Is this course used to supply related instruction for a certificate?				
If yes, the related instruction form, available on the curriculum office website, must be completed and				
submitted together with this form.				

SECTION #3 ADDITIONAL INFORMAT	TON FOR NEW CTE COURSES		
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College		
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS		
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease etc			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	⊠ Yes – date: 10/21/2020 □ No		
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):			
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will potify the submitter department chair, and department director when the course has completed			

beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

the approval process and is available to be scheduled. Curriculum changes generally go into effect at the

Submitter	Email	Date		
Mary Kramer	mkramer@cgcc.edu	10-18-2020		
Department Chair (enter name of department chair): Jim Pytel				

Department Dean (enter name of department dean): Mary Kramer

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	SECTION #1 GENERAL INFORMATION						
Department:	СТЕ		Submitter name phone and email	M m	Mary Kramer <u>mkramer@cgcc.edu</u>		
Prefix and Course Number:		CT 102	Credits:		3		
Course Title: (60 characters max, including spaces)	Footings and Foundations		Transcript Title: (30 characters max, including spaces)		Footings and Foundations		
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:		
Is this course equiva have the same descr	llent to an ription, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pr	Prefix, number and title:		
Reason for the new course.	To be inc	luded in the new Cons	truction Technology	and E	Basic Constru	uction certificates.	
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.							
			Check all that ap	ply	Default	t (Choose one)	
A-F (letter grade))			\square	
Pass/No pass		s 🛛					
Audit in consultation with faculty		y 🛛					
REQUISITES: Identif	y prerequi	site, corequisite and co	oncurrent course(s)				
Standard requisi	tes – Prero Prero	equisite: MTH 20 or eq equisite/concurrent: W	uivalent placement t R 121.	est sc	cores.		
placement into:		•	placement int	o:			
course prefix & number: RD 90, WR 90 or equivalent placement test scores		🔀 prerequisite	c	orequisite	pre/co		
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores			🔀 prerequisite	c] corequisite 🗌 pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .							
Introduces the construction of wood and concrete foundations. Explores determining property lines, setting building corners and establishing grades and elevations. Provides hands-on experience in the building of concrete footings and foundation wall forms. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.							

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:
	1. Demonstrate the layout of building lines and batter board set up.
	2. Determine footing requirements and build a footing form.
	3. Follow local building codes for foundation construction.
	4. Build, erect, and use forms for poured foundation walls.
	5. Estimate concrete materials required for a specific area.
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Demonstrate the layout of building lines and batter board set up. Establish lot lines Verify lot lines Lay out building lines Check squareness of building lines Set up batter boards Determine footing requirements and build a footing form. Calculate dimensions for standard footings Determine applications for reinforcement of footings Form key in the footings Lay out footing forms Check forms for levelness and accurate measurements Demonstrate the construction of footing forms Follow local building codes for foundation construction. Identify appropriate codes that apply to foundation construction Read and interpret code
	Follow and apply code standards
--	---
	 4. Build, erect, and use forms for poured foundation walls. Identify the different wall forms used in construction Calculate the amount of pressure created by concrete at base of wall form Set up foundation wall forms Brace wall forms and check dimensions Utilize a variety of form hardware (snap ties, taper ties, coil ties, corner clamps)
	 5. Estimate concrete materials required for a specific area. Demonstrate the proper mixing of concrete Identify methods used to deliver concrete to the forms Demonstrate methods to vibrate and compact concrete in forms Secure wall plates with appropriate anchors
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)			
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.			
Will this new course be part and/or degree(s)?	of existing, currently approved CGCC certificate(s)	☐ Yes ⊠ No	
Name of certificate(s):		# credit:	
Name of degree(s):		# credit:	
Will this new course be part	of a new, proposed CGCC certificate or degree?	Yes	
Name of new certificate(s):	Construction Technology Basic Construction	# credit: 33 # credit: 18	
Name of new degree(s):		# credit:	
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course		
Is this course used to supply related instruction for a certificate?			
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.			

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College		
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS		
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease etc			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	⊠ Yes – date: 10/21/2020 □ No		
Implementation term:	Start of next academic year (summer term) Specific term (if BEFORE next academic year):		
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the			

beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Mary Kramer	mkramer@cgcc.edu	10-18-2020	
Department Chair (enter name of department chair): Jim Pytel			

Department Dean (enter name of department dean): Mary Kramer

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENERAL INFORMATION						
Department:	CTE		Submitter name phone and email	M m	Mary Kramer mkramer@cgcc.edu	
Prefix and Course Number:		CT 103	Credits:		3	
Course Title: (60 characters max, including spaces)	Build	ing Materials and Methods	Transcript Title: (30 characters max, including spaces)	В	Building Materials and Methods	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	llent to and iption, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pı	refix, numbe	r and title:
Reason for the new course.	Reason for the new construction Technology and Basic Construction certificates.					
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade))			
Pass/No pass			s 🛛			
Audit in consultation with faculty			y 🛛			
REQUISITES: Identify	y prerequi	site, corequisite and co	oncurrent course(s)			
Standard requisi	tes – Prere Prere	equisite: MTH 20 or eq equisite/concurrent: W	uivalent placement t R 121.	est so	cores.	
placement into:			🗌 🗌 placement int) :		
course prefix & number: RD 90, WR 90 or equivalent placement test scores		prerequisite	c	orequisite	pre/co	
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scoresImage: prerequisiteImage: pre/co				pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Introduces function and performance characteristics of basic building materials and components. Addresses methods and sequences in the construction process. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

	Upon successful completion of this course, students will be able to:				
Outcomes: (Use observable and measurable verbs)	1. Identify materials and methods used in the construction industry.				
	2. Analyze building materials quality, function and utility.				
	3. Apply proper handling and storage of building materials.				
	 Organize building materials and components for sequencing construction activities. 				
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.				

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Identify materials and methods used in the construction industry. Have knowledge of locally available materials and be able to identify which are appropriate for a project Utilize specifications to identify construction method for project Calculate board footage Research and compile building products manual by Construction Specifications Institute (CSI) master format Analyze building materials quality, function and utility. Define load capacity of building material Identify appropriate fastener type and sizing units Determine grades and moisture content Know the difference between nominal and dressed sized lumber
	 Apply proper handling and storage of building materials. Determine the storage needs of different building products: Moisture protection Breatbability

	 Weight bearing capacity Hazardous materials Identify steps to ensure proper storage and protection
	 4. Organize building materials and components for sequencing construction activities. Establish schedule for construction Identify sequence of materials based on schedule Identify placement of materials for access
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)				
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.				
Will this new course be part of existing, currently approved CGCC certificate(s) Yes and/or degree(s)? No				
Name of certificate(s):		# credit:		
Name of degree(s):		# credit:		
Will this new course be part	of a new, proposed CGCC certificate or degree?	Yes		
Name of new certificate(s):	Construction Technology Basic Construction	# credit: 33 # credit: 18		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course			
Is this course used to supply related instruction for a certificate?				
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and				

submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College		

IMPACT ON OTHER PROGRAMS AND DEPARTMENTS			
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No		
Is there any potential impact on another Identify and consult with Department ch course, such as: content overlap, course increase or decrease, etc.	department? hairs whose courses may be impacted by this duplication, prerequisite need, enrollment	☐ Yes ⊠ No	
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/21/2020		
Implementation term: Start of next academic year (summer term)			
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but			

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Mary Kramer	mkramer@cgcc.edu	10-18-2020	
Department Chair (enter name of department chair): Jim Pytel			
Department Dean (enter name of department dean): Mary Kramer			

NEXT STEPS:

1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENERAL INFORMATION						
Department:	CTE		Submitter name phone and email	M m	Mary Kramer <u>mkramer@cgcc.edu</u>	
Prefix and Course Number:		CT 104	Credits:		3	
Course Title: (60 characters max, including spaces)	Floor Framing		Transcript Title: (30 characters max, including spaces))	Floor Framing	
May this course be repeated for credit?	Yes No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descu	llent to an ription, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pr	Prefix, number and title:	
Reason for the new course.	or the To be included in the new Construction Technology and Basic Construction certificates.				uction certificates.	
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
			Check all that ap	oply	Defaul	t (Choose one)
A-F (letter grade)						
Pass/No pas		s 🛛				
Audit in consultation with facult		y 🛛				
REQUISITES: Identif	y prerequi	site, corequisite and co	oncurrent course(s)			
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores.						
placement into:		•	placement int	:0:		
course prefix & number: RD 90, WR 90 or equivalent placement test scores			🔀 prerequisite	c	orequisite	🗌 pre/co
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores				🗌 pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Introduces basic floor framing systems and principles used in construction. Includes floor system install on foundations using current building construction methods. Explores floor leveling, sill plate installation, and joist and beam lay-out. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:
	1. Identify the types of framing.
	2. Calculate the load on girders and beams used in construction.
	3. Follow local building codes for floor construction.
	4. Demonstrate the procedure to assemble a floor frame.
	5. Work collaboratively and communicate effectively with a team.
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	
	1. Identify the types of framing
	 Explain platform framing, it's use and advantages
	 Explain balloon framing, it's use and advantages
	 Identify the framing methods shown in an architectural plan
Course Content –	2. Calculate the load on girders and beams used in construction.
organized by	Calculate the size of girders and beams needed for support in a structure
outcomes (list each	Demonstrate the construction of a built-up girder
outcome followed by	 Understand weight bearing advantages of steel beams
an outline of the	3. Follow local building codes for floor construction.
Telaleu content).	 Identify appropriate code that apply to floor construction
	Read and interpret code
	Follow and apply code standards
	4. Demonstrate the procedure to assemble a floor frame.
	Identify sub floor material

	 Construct a cripple wall Install sill plates 5. Work collaboratively and communicate effectively with a team. Determine role for team members to accomplish a project Troubleshoot issues that arise with project Respect opinions and work through disagreements
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S) New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate. Yes Will this new course be part of existing, currently approved CGCC certificate(s) No and/or degree(s)? Name of certificate(s): # credit: Name of degree(s): # credit: Yes Will this new course be part of a new, proposed CGCC certificate or degree? No Construction Technology # credit: 33 Name of new certificate(s): **Basic Construction** # credit: 18 Name of new degree(s): # credit: Briefly explain how this course fits into the new or existing degrees **Required** course /certificates noted above (i.e. requirement or elective): Yes Is this course used to supply related instruction for a certificate? No No If yes, the related instruction form, available on the curriculum office website, must be completed and submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES				
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College			
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				

Are there degrees and/or certificates				
that are affected by the instruction of	No			
this course? If so, provide details.				
Are there similar courses existing in				
other programs or disciplines at CGCC?				
If yes, provide details and/or describe	No			
the nature of acknowledgments and/or				
agreements that have been reached.				
Is there any potential impact on another	department?			
Identify and consult with Department ch	airs whose courses may be impacted by this	Yes		
course, such as: content overlap, course	duplication, prerequisite need, enrollment	🖂 No		
increase or decrease, etc.				
Explain and/or describe the nature of				
acknowledgments and/or agreements				
that have been reached.				
Has the Library director been notified	\sum Voc. data: 10/21/2020			
regarding the addition of this course	A 165 - Uale. 10/21/2020			
and the need for any potential	No			
resources?	resources?			
	Start of next academic year (summer terr	n)		
Implementation term:	Specific term (if BEFORE next academic	year):		
Course approval is dependent on approval of the related certificate/degree submission which documents the				
placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum				
Office will potify the submitter departm	ant chair and department director when the c	ourse has completed		
once with notify the submitter, department chair, and department director when the course has completed				

the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

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Submitter	Email	Date			
Mary Kramer	mkramer@cgcc.edu	10-18-2020			
Department Chair (enter name of department chair): Jim Pytel					
Department Dean (enter name of department dean): Mary Kramer					

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	SECTION #1 GENERAL INFORMATION					
Department:	СТЕ		Submitter name phone and email	M m	Mary Kramer mkramer@cgcc.edu	
Prefix and Course Number:		CT 105	Credits:		3	
Course Title: (60 characters max, including spaces)	Wall and Ceiling Framing		Transcript Title: (30 characters max, including spaces)		Wall and Ceiling Framing	
May this course be repeated for credit?	Yes No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	llent to and	other? They must comes and credit.	☐ Yes ⊠ No	Pr	Prefix, number and title:	
Reason for the new course.	To be included in the new Construction Technology and Basic Construction certificates.					
GRADE OPTIONS: Che refers to the option th do not make a change	GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.					
			Check all that ap	ply	Defaul	t (Choose one)
A-F (letter grade)				\boxtimes		
Pass/No pas		s 🛛				
Audit in consultation with facult		y 🛛				
REQUISITES: Identify	y prerequi	site, corequisite and co	oncurrent course(s)			
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores.						
	Prere	equisite/concurrent: W	R 121.			
placement into:			placement into	D:		
course prefix & number: RD 90, WR 90 or equivalent placement test scores			prerequisite	c	orequisite	pre/co
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores					pre/co	
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Introduces wall framing methods and principles currently used in construction and following Oregon building codes. Includes wall layout and assembly of studs, corners, partitions and openings. Addresses the calculation of material quantities and the application of related building codes. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:			
	1. Estimate materials required for wall framing project.			
	2. Identify the main parts of a wall frame and its layout.			
	3. Follow local building codes for wall and ceiling construction.			
	4. Construct and erect wall sections and partitions.			
	5. Apply air and weather resistant barriers.			
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.			

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Estimate materials required for wall framing project. Calculate the amount of sheathing required Determine the number of studs required to reach 16" on center Create a stock plan to determine wall and ceiling framing members required Identify the parts of a wall frame and its layout. Identify sole plates, top plates, studs and headers Demonstrate methods to frame wall corners Review and interpret site plans to determine location of rough openings Follow local building codes for wall and ceiling construction. Identify appropriate codes that apply to wall and ceiling construction Read and interpret codes Follow and apply code standards

	4. Demonstrate the construction and erection of wall sections and partitions.
	Construct partition intersections
	Demonstrate the construction of a header
	 Review safety procedures when constructing wall sections
	Plumb wall upon erection
	5. Apply air and weather resistant barriers.
	 Identify appropriate material and grades
	 Installation of material to block leaks and infiltration
	Determine proper installation
Suggested Texts &	
Materials (specify if	Modern Carpentry, 12th Edition, Wagner, Smith
any texts or materials	······································
are required):	
Department Notes	
(optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)					
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.					
Will this new course be part of existing, currently approved CGCC certificate(s) Yes and/or degree(s)? No					
Name of certificate(s):		# credit:			
Name of degree(s):		# credit:			
Will this new course be part of a new, proposed CGCC certificate or degree?		Yes			
Name of new certificate(s):	Construction Technology Basic Construction	# credit: 33 # credit: 18			
Name of new degree(s):		# credit:			
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course				
Is this course used to supply related instruction for a certificate?					
If yes, the related instruction form, available on the curriculum office website, must be completed and					
submitted together with this form.					

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course		
transfer to another academic	Comparables: Portland Community College, Lane Community	
institution? Identify and describe the	College	
nature of the transfer.		

IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No			
Is there any potential impact on another Identify and consult with Department ch course, such as: content overlap, course increase or decrease, etc.	department? airs whose courses may be impacted by this duplication, prerequisite need, enrollment	☐ Yes ⊠ No		
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?				
Implementation term: Start of next academic year (summer term) Implementation term: Specific term (if BEFORE next academic year):				
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.				

SECTION #4 DEPARTMENT REVIEW "I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department

chair and dean."SubmitterEmailDateMary Kramermkramer@cgcc.edu10-18-2020Department Chair (enter name of department chair): Jim PytelDepartment Dean (enter name of department dean): Mary Kramer

NEXT STEPS:

1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	RAL INFO	RMATION				
Department:	CTE		Submitter name phone and email	M m	ary Kramer <u>kramer@cg</u>	<u>cc.edu</u>
Prefix and Course Number:		CT 106	Credits:		3	
Course Title: (60 characters max, including spaces)	Roof Framing		Transcript Title: (30 characters max, including spaces)		Roof Framing	
May this course be repeated for credit?	Yes	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	lent to an iption, ou	other? They must tcomes and credit.	☐ Yes ⊠ No	Pi	Prefix, number and title:	
Reason for the new course.	To be inc	luded in the new Cons	truction Technology	and [Basic Constru	uction certificates.
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade))			\boxtimes	
Pass/No pass		5				
Audit in consultation with faculty		y 🛛				
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores.						
	Prere	equisite/concurrent: Wi	R 121.			
placement into:		W/D 00 or oquivalant	placement int	0:		
placement test score	es	o, wk 90 of equivalent	prerequisite	c	orequisite	pre/co
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores		prerequisite	c] corequisite _ pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Introduces the theory and practice of roof framing. Includes calculations to determine rafter lengths for slopes and spans. Addresses erecting and installing trusses and techniques for rafter installation. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:
	1. Apply math formulas to calculate rafter layouts.
	2. Classify and describe various roof types.
	3. Follow local building codes for roof construction.
	4. Analyze and build a functioning structural roof system.
	5. Describe the framing methods for different types of roofs.
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Apply math formulas to calculate truss construction. Understand the purpose of roof trusses. Identify common truss parts, including plates and connectors Calculate truss load based on number of members and nodes Create a scale model of a truss pattern Describe installation of trusses Classify and describe various roof types. Identify and apply elements of gable roof Identify and apply elements of hip roof Identify and apply elements of an intersecting roof Identify and apply elements of a truss roof
	 Follow local building codes roof construction. Identify appropriate codes that apply to roof construction Read and interpret codes Follow and apply code standards

	 4. Analyze and build a functioning structural roof system. Determine which roof type is right for the project – Pros and cons Apply principles of roof layout Determine roof pitch and unit rise Identify span and run
	 5. Describe the framing methods for different types of roofs. Consider load issues with flat roofs Identify angles used for upper roof surfaces and lower roof surfaces Recognize special framing problems that may occur, and identify possible solutions
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION O	F COURSE WITHIN EXISTING AND/OR NEW PROGRAI	M(S)	
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.			
Will this new course be part of existing, currently approved CGCC certificate(s) Yes and/or degree(s)? No			
Name of certificate(s):		# credit:	
Name of degree(s):		# credit:	
Will this new course be part of a new, proposed CGCC certificate or degree? Yes No			
Name of now cortificato(s):	Construction Technology	# credit: 33	
Name of new certificate(s).	Basic Construction	# credit: 18	
Name of new degree(s):		# credit:	
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course		
Is this course used to supply related instruction for a certificate?			
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.			

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course		
transfer to another academic	Comparables: Portland Community College, Lane Community	
institution? Identify and describe the	College	
nature of the transfer.		

IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No			
Is there any potential impact on another Identify and consult with Department ch course, such as: content overlap, course increase or decrease, etc.	department? airs whose courses may be impacted by this duplication, prerequisite need, enrollment	☐ Yes ⊠ No		
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	ied 'se \overline Yes - date: 10-21-2020 \overline No			
mplementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):				
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but				

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date			
Mary Kramer	mkramer@cgcc.edu	10-18-2020			
Department Chair (enter name of department chair): Jim Pytel					
Department Dean (enter name of department dean): Mary Kramer					

NEXT STEPS:

1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	RAL INFO	RMATION				
Department:	CTE		Submitter name phone and email	M m	ary Kramer kramer@cg	<u>cc.edu</u>
Prefix and Course Number:		CT 110	Credits:		3	
Course Title: (60 characters max, including spaces)	Electrical Wiring Basics		Transcript Title: (30 characters max, including spaces)		Electrical Wiring Basics	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	llent to an iption, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pi	refix, numbe	r and title:
Reason for the new course.	To be inc	luded in the new Cons	truction Technology	and [Basic Constru	uction certificates.
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade))			\boxtimes	
Pass/No pass		s 🛛				
Audit in consultation with faculty		y 🛛				
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores. Prerequisite/concurrent: WR 121.						
placement into:			placement into):		
course prefix & number: RD 90, WR 90 or equivalent placement test scores		prerequisite	c] corequisite 🗌 pre/co		
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores		🔀 prerequisite	c] corequisite pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Provides basic knowledge of electrical wiring and AC and DC circuits. Introduces electrical codes, ordinances, print reading and electricity fundamentals. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:	
	1. Utilize basic electrical terms.	
	2. Apply basic electrical theory.	
	3. Recognize limits of basic electrical training.	
	4. Use approved practices for simple wiring installation tasks.	
	5. Perform simple electrical troubleshooting.	
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry	

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
	 Utilize basic electrical terms. Describe a residential electrical service and its circuitry Define "current" and the laws governing its functional principles Understand the National Electrical Code and its purpose
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Apply basic electrical theory. Explain the theory of electron flow through conducting material Know the difference between alternating current and direct current Describe the purpose and construction of transformers Know the difference between a step-up transformer and a step-down transformer Understand the two levels of voltage used in residential wiring and how it's provided
	 3. Recognize limitations of basic electrical training Identify local and National electrical codes Read and interpret codes Understand qualifications and role of licensed Electricians

	Follow restrictions guiding any electrical work
	 4. Use approved practices for simple wiring installation tasks. Demonstrate connecting two conductors or a conductor and a device Strip insulation from the ends of conductors Wire a simple circuit and demonstrate it works when plugged to a power source
	 5. Perform simple electrical troubleshooting. Demonstrate testing of receptacles, switches and fixtures Utilize devices designed to protect electrical conductors from damage
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)				
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.				
Will this new course be part and/or degree(s)?	Will this new course be part of existing, currently approved CGCC certificate(s) Yes And/or degree(s)?			
Name of certificate(s):		# credit:		
Name of degree(s):		# credit:		
Will this new course be part of a new, proposed CGCC certificate or degree?				
Name of new certificate(s):	Construction Technology	# credit: 33		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):				
Is this course used to supply related instruction for a certificate?				
If ves. the related instruction form, available on the curriculum office website, must be completed and				

submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College	

IMPACT ON OTHER PROGRAMS AND DEPARTMENTS		
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No	
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No	
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease, etc.		☐ Yes ⊠ No
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.		
Has the Library director been notified regarding the addition of this course and the need for any potential INO		
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):		
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but		

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date
Mary Kramer	mkramer@cgcc.edu	10-18-2020
Department Chair (enter name of department chair): Jim Pytel		
Department Dean (enter name of department dean): Mary Kramer		

NEXT STEPS:

1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENERAL INFORMATION						
Department:	CTE		Submitter name phone and email	M m	Mary Kramer mkramer@cgcc.edu	
Prefix and Course Number:		CT 111	Credits:		3	
Course Title: (60 characters max, including spaces)	Pl	umbing Basics	Transcript Title: (30 characters max, including spaces)		Plumb	ing Basics
May this course be repeated for credit?	Yes No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	llent to an iption, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pr	efix, numbe	r and title:
Reason for the new construction Technology and Basic Construction certificates.						
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)			t (Choose one)			
A-F (letter grade						
	Pass/No pas		s 🛛			
Audit in consultation with facult		y 🛛				
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores.						
placement into:						
course prefix & number: RD 90, WR 90 or equivalent placement test scores			pre/co			
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores			⊠ prerequisite	c	corequisite pre/co	
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Explores basic skills needed to assist with installation and repair of plumbing systems. Introduces plumbing plans and drawings, measuring for plumbing materials and safe operation of plumbing tools. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:		
	1. Cite codes and safety measures that govern the installation of plumbing		
	systems.		
	2. Properly operate plumbing tools.		
	3. Assist with the design and installation of a plumbing system.		
	4. Measure and calculate plumbing materials needed for a job.		
Outcomes assessment	Outcomes are assessed through a combination of hands-on and written		
strategies:	assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.		

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
	 Cite codes and safety measures that govern the installation of plumbing systems. Understand necessity of adhering to plumbing code standards Explain repercussions if standards are not followed Compare the differences between codes from different communities
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Properly operate plumbing tools. Proper and successful use of a compression fitting in creating a compression joint. Proper and successful use of a pipe cutter and disconnect clip to make a fitting connection Proper and successful use of a propane torch to sweat solder copper Proper and successful use of a tubing cutter to cut and ream tubing Proper and successful use of a pipe wrench to tighten and/or remove a pipe
	 3. Assist with the design and installation of a plumbing system. Be familiar with plumbing materials and terminology. Identify symbols that represent plumbing devices and fixtures Draw a plumbing system

	 Read and interpret plumbing system plans in order to translate into installation tasks.
	 4. Measure and calculate plumbing materials needed for a job. Find one side of a right-angle triangle Compute the lengths of pipe offsets Read and interpret plumbing system plans in order to generate a needed parts list
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)			
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.			
Will this new course be part of existing, currently approved CGCC certificate(s) and/or degree(s)? Yes			
Name of certificate(s):		# credit:	
Name of degree(s):		# credit:	
Will this new course be part of a new, proposed CGCC certificate or degree? Yes No			
Name of new certificate(s):	Construction Technology	# credit: 33	
Name of new degree(s):		# credit:	
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):			
Is this course used to supply related instruction for a certificate?			
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and			

submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College	

IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment				
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?				
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):				
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.				

SECTION #4 DEPARTMENT REVIEW

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Submitter	Email	Date	
Mary Kramer	<u>mkramer@cgcc.edu</u>	10-18-2020	
Department Chair (enter name of department chair): Jim Pytel			
Department Dean (enter name of department dean): Mary Kramer			

NEXT STEPS:

1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	SECTION #1 GENERAL INFORMATION					
Department:	CTE		Submitter name phone and email	M m	Mary Kramer mkramer@cgcc.edu	
Prefix and Course Number:		CT 112	Credits:		3	
Course Title: (60 characters max, including spaces)	Basic Stair Construction		Transcript Title: (30 characters max, including spaces)		Basic Stair Construction	
May this course be repeated for credit?	Yes	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	lent to an iption, ou	other? They must tcomes and credit.	☐ Yes ⊠ No	Pi	refix, numbe	r and title:
Reason for the new course.	Reason for the To be included in the new Construction Technology and Basic Construction certificates.				uction certificates.	
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade))			\square	
Pass/No pass		s 🛛				
Audit in consultation with faculty		y 🛛				
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
Standard requisi	tes – Prer	equisite: MTH 20 or eq	uivalent placement t	est so	cores.	
	Prere	equisite/concurrent: W	R 121.			
placement into:	her RD 9) WR 90 or equivalent		0:		
placement test score	placement test scores		🔀 prerequisite		orequisite	pre/co
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores		⊠ prerequisite] corequisite 🗌 pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Explores the rise and run ratio for stair construction. Includes material estimation and installation of both open and closed interior staircases. Emphasizes the relevant building codes in stair construction. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:
	1. Identify the stair types and when they are used in a project.
	2. Calculate the rise-run ratio, riser size and stairwell length.
	3. Lay out stringers for given stair rise and run.
	4. Identify stair parts.
	5. Follow local building codes for stair construction.
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
	 Identify the stair types and when they are used in a project. Understand the evolution of stairway construction Identify the two types of stairs and their use Calculate wider tread for winder stairs
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 2. Calculate the rise-run ratio, riser size and stairwell length. Distinguish between unit run and rise and total run and rise Demonstrate accurate layout of stairway Identify trimmers and headers to be used Identify three rules for calculating rise-run and riser-tread ratio
	 3. Lay out stringers for given stair rise and run. Demonstrate riser height using a story pole Use story pole to accurately transfer to a stringer and framing square Identify three types of construction used for stringers Demonstrate construction of a housed stringer stairway

	 4. Identify stair parts. Identify materials commonly used for treads and risers of main stairs Describe basic stair riser shapes Define the term "nosing" and the various designs associated with it Identify the parts of an open stair
	 5. Follow local building codes for stair construction. Identify appropriate code that applies to stair construction Read and interpret code Follow and apply code standards
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION O	F COURSE WITHIN EXISTING AND/OR NEW PROGRAM	4(S)		
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.				
Will this new course be part of existing, currently approved CGCC certificate(s) Yes and/or degree(s)? No				
Name of certificate(s):		# credit:		
Name of degree(s): # credit:				
Will this new course be part of a new, proposed CGCC certificate or degree?				
Name of new certificate(s):	Construction Technology	# credit: 33		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):				
Is this course used to supply related instruction for a certificate?				
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.				

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College	

IMPACT ON OTHER PROGRAMS AND DE	IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No				
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.					
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment No		☐ Yes ⊠ No			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.					
Has the Library director been notified regarding the addition of this course and the need for any potential INO INO					
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):					
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but					

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date		
Mary Kramer	mkramer@cgcc.edu	10-18-2020		
Department Chair (enter name of department chair): Jim Pytel				
Department Dean (enter name of department dean): Mary Kramer				

NEXT STEPS:

1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.

Columbia Gorge Community College

New Course Career Technical Education (CTE)

SECTION #1 GENE	RAL INFO	RMATION				
Department:	СТЕ		Submitter name phone and email	M m	Mary Kramer mkramer@cgcc.edu	
Prefix and Course Number:		CT 113	Credits:		3	
Course Title: (60 characters max, including spaces)	Building Decks and Porches		Transcript Title: (30 characters max, including spaces))	Building Decks and Porches	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descu	llent to and ription, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pr	Prefix, number and title:	
Reason for the new course.	n for the To be included in the new Construction Technology and Basic Construction certificate:			uction certificates.		
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade)			\boxtimes			
		Pass/No pas	s 🛛			
Audit in consultation with faculty			у 🛛			
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores.						
	Prere	equisite/concurrent: W	R 121.			
placement into:			placement int	0:		
course prefix & number: RD 90, WR 90 or equivalent placement test scores		prerequisite	c	orequisite	pre/co	
course prefix & number: MTH 60 or MTH 98 or equivalent placement test scores			pre/co			
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Introduces the methods and materials used for proper site preparation in deck and porch installations. Outlines the steps followed in the construction of a deck or porch. Covers the identification of defects that impact safety in wood and composite decks and porches. Prerequisites: MTH 60 or MTH 98, RD 90, WR 90 or equivalent placement test scores. Audit Available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:			
	1. Identify and compare varying types of decks and porches.			
	2. Select and install appropriate fasteners for deck and porch construction.			
	3. Prepare deck or porch site for layout and construction.			
	 Recognize advantages and disadvantages of different structural and decking materials. 			
	 Identify defects that can impact safety in wood and composite decks and porches. 			
Outcomes assessment strategies:	Outcomes are assessed through a combination of hands-on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that requires demonstration of skills necessary for success in industry.			

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required course activities (optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Identify types of decks and porches and their differences. Describe the types of decks and their features Ground level deck (footings only) Raised deck (footings, post anchors) Discuss porch styles and their features Open porch (no enclosure, roof) Screened Porch (screened, roof) Farmhouse porch (runs width of house, no enclosure, roof) Select and install appropriate fasteners for deck and porch construction. Demonstrate installation of concealed fasteners Identify connectors to use for decks and porches
	 3. Prepare site for layout and construction. Study local codes for deck and porch building Access appropriate building permits

	 Lay out a deck using measuring tape Prove corners of deck using diagonal measurements Install a ledger for deck attachment
	 4. Recognize advantages and disadvantages of different structural and decking materials. Identify grades, species and sizes of wooden structural materials Choose materials the resist decay and withstand outdoor exposure Describe composite boards and their use Properly dispose of composite scrap according to EPA regulations
	 5. Identify defects that can impact safety in wood and composite decks and porches. Identify checks and splits in wood boards Identify rot and decay in wood boards Recognize crooks and bows in wood boards Identify delamination of composite boards Recognize fiber and bonding defects of composite boards
Suggested Texts & Materials (specify if any texts or materials are required):	Modern Carpentry, 12th Edition, Wagner, Smith
Department Notes (optional)	

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)				
New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.				
Will this new course be part and/or degree(s)?	☐ Yes ⊠ No			
Name of certificate(s):		# credit:		
Name of degree(s):		# credit:		
Will this new course be part	Yes			
Name of new certificate(s):	Construction Technology	# credit: 33		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course			
Is this course used to supply related instruction for a certificate?				
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.				

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES				
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Comparables: Portland Community College, Lane Community College			
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS				
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No			
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease, etc.				
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	∑ Yes – date: 10/21/2020 ☐ No			
Implementation term:	Start of next academic year (summer term) Specific term (if BEFORE next academic year):			
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter department chair and department director when the course has completed				

beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

the approval process and is available to be scheduled. Curriculum changes generally go into effect at the

Submitter	Email	Date	
Mary Kramer	mkramer@cgcc.edu	10-18-2020	
Department Chair (enter name of department chair): Jim Pytel			
Department Dean (enter name of department dean): Mary Kramer			

Columbia Gorge Community College					CC date CC decision CC vote			
NEW CERTIFICATE REQUEST								
Submitted by: Mary Kramer			Email: <u>mkra</u>	amer@cgcc.edu	Phone: 541-506-6033	Department: CTE		
			(Double click	< on check boxes to a	activate dialog box)			
	1			SECTION #1 OVER	VIEW			
Proposed Title:			Construction Technology			Proposed Crea	dits:	33
Reason for new certificate:	Forecasts increase Central C construct	by the Oregon Employment Department indicate Construction jobs will by 18% in the next 8 years in the Columbia Gorge region, 35% in the regon region, and 16.5% in Oregon as a whole. Outreach to area ion companies confirms the need for trained workers.			Requested implementation term:		Fall 2021	
ls there impact on other areas of instruction?	Yes No	Explanation of issues and how they are being resolved:			Has the cert been validate Advisory Com	ificate d by the mittee?	☐ Yes ⊠ No	
If yes, have you talked with impacted departments and resolved any and all possible issues?	Yes No				Date of Advisory Committee meeting:		Advisory Committee forming Jan/Feb	
Is this a Statewide Certif	Is this a Statewide Certificate? Yes No If so, has the certificate been approved by the consortium? Y		Yes	No				
Is this a Related Certifica	Is this a Related Certificate? Yes		No	Is this a Career Pat	Career Pathway?		No	
If this is a Related Certificate or a Career Pathway, what is the base degree?		Base certifica	ate for 18 cre	dit Basic Constructic	on related certificate			

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SECTION #2 PREREQUISITES AND OUTCOMES

Note that degree/certificate/program entry prerequisites are only enforceable in limited entry programs. Program prerequisites for open entry programs only have meaning when they are representative of prerequisites associated to specific courses within the program. Prerequisites that students are not able to test out of using Next Gen Accuplacer result in hidden degree/certificate requirements and should be avoided. (Courses that may be tested out of using Next Gen Accuplacer include: RD 90, RD 115, WR 90, WR 115, MTH 20, MTH 60, MTH 65, MTH 95, MTH 98, MTH 105, MTH 111, MTH 112.)

PROPOSED PRE and/or COREQUISITES						
Course Number	Course Title or Placement level	Requisites	Credits			
WR 90	Introductory Writing	Placement into WR 90 and RD 90	3			
RD 90	Transformative Reading	Placement into RD 90	3			
MTH 60 or MTH 98	Beginning Algebra I or Quantitative Math	MTH 20 or equivalent placement tests or placement into RD and WR 90 and MTH 20 or equivalent placement tests	4			
Is this a limited entry program? Students must apply, via the department for program entry.						
	PROPOSED OUTCOMES					
Describe what the student will be able to do "out there" (in their life roles as worker, family member, community citizen, global citizen or lifelong learners). Outcomes must be measurable through the application of direct and/or indirect assessment strategies. Three to six outcomes are recommended. Start each outcome with an active verb, completing the sentence starter provided. (See <u>Writing Learning Outcomes</u> on the curriculum website.)						
Students who succes	Students who successfully complete this certificate will be able to:					
1. Explain terms and nomenclature pertaining to the tools, materials and hardware associated with the construction field.						
2. Demonstrate the safe and proper use and care of basic construction tools.						
3. Perform fundamental construction techniques properly, including foundations, carpentry, basic plumbing and electrical.						
4. Apply safe work habits at all times.						
	SECTION #3 PROPO	DSED COURSEWORK				
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List all courses (cou	List all courses (course number, title, requisites and credits) in the term by term order that is to be displayed in the <u>catalog</u> certificate map. Enter					
need more lines to a	accommodate the courses, right click and insert rows.)	t be reflected in the CGCC catalog pages. Please ensure	ni is coneci. (ii you			
Course Number	Course Title	Requisites	Credits			
Fall						
CT 101	Tools and Safety	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 102	Footings and Foundations	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 103	Building Materials and Methods	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 104	Floor Framing	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
Winter						
CT 105	Walls and Ceiling Framing	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 106	Roof Framing	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 110	Electrical Writing Basics	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 111	Plumbing Basics	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
Spring						
CT 112	Basic Stair Construction	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 113	Building Decks and Porches	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 114	Windows and Exterior Walls	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
Credit total 33						
	ELECTIVES (if applicable)				
Course Number	Course Title	Requisites	Credits			
	None					

SECTION #4 RELATED INSTRUCTION
Certificates 45 credits or more require related instruction. Fill out a Template for Related Instruction located on the Curriculum web page.
All courses identified as fulfilling the embedded related instruction requirement must have been reviewed and recommended
by the Curriculum Committee and the details outlined on the CCOG.

SECTION #5 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Degree or Certificate Signature Form signed by the department chair and dean."

Submitter	Email	Date			
Mary Kramer	<u>mkramer@cgcc.edu</u>	10/14/2020			
Department Chair (enter name of department chair): Jim Pytel					
Department Dean (enter name of department dean): Mary Kramer					

Next steps:

- 1. Save the completed Certificate Request Form and submit as an e-mail attachment to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. If needed, attach the completed Related Instruction Template to the same e-mail.
- 3. Refer to the Curriculum Office website for the Curriculum Committee <u>meeting schedule and submission deadlines</u>. You are encouraged to send submissions prior to the deadline so that the Curriculum Office may review and provide feedback.
- 4. Submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 5. It is required for a representative to attend the Curriculum Committee meeting in which your submission is scheduled for review. The representative will be asked to describe the proposal and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

			Columb	ia Gorge Comm	unity College	CC date CC decision CC vote		
			NEW	CERTIFICATE	REQUEST			
Submitted by: Mary Kran	ner		Email: <u>mkramer@cgcc.edu</u> Phone: 541-506-6033 Department: CT		:: CTE			
			(Double clic	k on check boxes to a	activate dialog box)			
	1			SECTION #1 OVER	VIEW			
Proposed Title:	Proposed Title: Basic Construction				Proposed Crec	lits:	18	
Reason for new certificate:	Forecasts by the Oregon Employment Department indicate Construction jobs will increase by 18% in the next 8 years in the Columbia Gorge region, 35% in the Central Oregon region, and 16.5% in Oregon as a whole. Outreach to area construction companies confirms the need for trained workers.			Requested implementation term:	on	Fall 2021		
ls there impact on other areas of instruction?	Yes No	Explanation	Explanation of issues and how they are being resolved:		Has the cert been validate Advisory Com	ificate d by the mittee?	☐ Yes ⊠ No	
If yes, have you talked with impacted departments and resolved any and all possible issues?	U Yes					Date of Adv Committee m	visory neeting:	Advisory Committee forming Jan/Feb
Is this a Statewide Certificate?		🗌 Yes 🛛	No	If so, has the certificate been approved by the consortium?		No		
Is this a Related Certificate?		Yes 🗌	No	Is this a Career Pat	hway?		Yes	No
If this is a Related Certificate or a Career Pathway, what is the base degree?		Construction	n Technology	(33 credit certificate	2)			

SECTION #2 PREREQUISITES AND OUTCOMES

Note that degree/certificate/program entry prerequisites are only enforceable in limited entry programs. Program prerequisites for open entry programs only have meaning when they are representative of prerequisites associated to specific courses within the program. Prerequisites that students are not able to test out of using Next Gen Accuplacer result in hidden degree/certificate requirements and should be avoided. (Courses that may be tested out of using Next Gen Accuplacer include: RD 90, RD 115, WR 90, WR 115, MTH 20, MTH 60, MTH 65, MTH 95, MTH 98, MTH 105, MTH 111, MTH 112.)

PROPOSED PRE and/or COREQUISITES				
Course Number	Course Title or Placement level	Requisites	Credits	
WR 90	Introductory Writing	Placement into WR 90 and RD 90	3	
RD 90	Transformative Reading	Placement into RD 90	3	
MTH 60 or MTH 98	Beginning Algebra I or Quantitative Math	MTH 20 or equivalent placement tests or placement into RD and WR 90 and MTH 20 or equivalent placement tests	4	
Is this a limited entry program? Students must apply, via the department for program entry.				
PROPOSED OUTCOMES				
Describe what the student will be able to do "out there" (in their life roles as worker, family member, community citizen, global citizen or lifelong learners). Outcomes must be measurable through the application of direct and/or indirect assessment strategies. Three to six outcomes are recommended. Start each outcome with an active verb, completing the sentence starter provided. (See <u>Writing Learning Outcomes</u> on the curriculum website.)				

Students who successfully complete this certificate will be able to:

1. Use standard terminology when identifying tools, materials and hardware associated with the construction field.

2. Demonstrate the safe and proper use and care of basic construction tools.

Perform fundamental construction techniques properly, including foundations and framing. 3.

4. Apply safe work habits at all times.

SECTION #3 PROPOSED COURSEWORK

List all courses (course number, title, requisites and credits) in the term by term order that is to be displayed in the catalog certificate map. Enter electives below if applicable. The information you provide on this form will be reflected in the CGCC catalog pages. Please ensure it is correct. (If you need more lines to accommodate the courses, right click and insert rows.)

Course Number	Course Title	Requisites	Credits
Fall			
CT 101	Tools and Safety	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3

New Certificate/revised 07.24.19 2

CT 102	Footings and Foundations	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 103	Building Materials and Methods	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 104	Floor Framing	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
Winter						
CT 105	Walls and Ceiling Framing	MTH 60 or 98, WR 90, RD 90 or equiv test scores	3			
CT 106	Roof Framing	MTH 60 or 98, WR 90, RD 90 or equiv test scores 3				
		Credit total	18			
	ELECTIVES (if applicable)					
Course Number	Number Course Title Requisites Cred		Credits			
	None					

SECTION #4 RELATED INSTRUCTION

Certificates 45 credits or more require related instruction. Fill out a Template for Related Instruction located on the Curriculum web page. All courses identified as fulfilling the embedded related instruction requirement must have been reviewed and recommended by the Curriculum Committee and the details outlined on the CCOG.

SECTION #5 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Degree or Certificate Signature Form signed by the department chair and dean."

Submitter	Email	Date		
Mary Kramer	<u>mkramer@cgcc.edu</u>	10/14/2020		
Department Chair (enter name of department chair): Jim Pytel				
Department Dean (enter name of department dean): Mary Kramer				

Next steps:

- 1. Save the completed Certificate Request Form and submit as an e-mail attachment to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. If needed, attach the completed Related Instruction Template to the same e-mail.
- 3. Refer to the Curriculum Office website for the Curriculum Committee <u>meeting schedule and submission deadlines</u>. You are encouraged to send submissions prior to the deadline so that the Curriculum Office may review and provide feedback.

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENE	RAL INFO	RMATION					
		CTE	Su	bmitter name	R	obert Wells-	Clark
Department:		CIE	pn an	ione d email	5	41-514-1585	edu
Prefix and Course Number:		MFG 151	Cr	edits:			3
Course Title: (60 characters max, including spaces)	Fabrio	cation Processes 1	Tr ch ine	anscript Title: (30 aracters max, cluding spaces)		Fabricatio	on Processes 1
May this course be repeated for credit?	Yes No	For how many times?	Сс	ontact hours:	L	ecture: ec/lab: 60 ab:	
Is this course equiva	lent to an	other? They must] Yes	Р	refix, numbe	r and title:
have the same descr	iption, ou	tcomes and credit.		No			
Reason for the new course.	To be inc	luded in the new Adva	ance	ed Manufacturing	Tech	inology certi	ficate.
GRADE OPTIONS: Ch	neck as ma	iny or as few options a	s yc	ou'd like. Choose t	he d	efault grade	option . The
default grade refers	to the opt	ion that is listed at the	e top	o of the dropdowi	n me	nu for the CR	N. Students who
do not make a choic	e or ao no	t make a change in the	e ar	opaown menu wi	il aut	comatically D	e assigned to the
actual grade option	•			Check all that an	ply	Defaul	t (Choose one)
A-F (letter grade)			e)		. ,		$\overline{\boxtimes}$
Pass/No pass		S					
Audit in consultation with faculty			\square				
REQUISITES: Identify	y prerequi	site, corequisite and co	วทะเ	Irrent course(s)		-	
Standard requisi	tes – Prer	equisite: MTH 20 or eq	uiva	alent placement t	est s	cores.	
	Prere	equisite/concurrent: W	R 12	21.			
placement into:				placement int	0:		
course prefix & num	ber: MFG	150		🗙 prerequisite		corequisite	🗌 pre/co
course prefix & number:				prerequisite		corequisite	🗌 pre/co
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .							
Builds on fabrication principles started in MFG 150 and adds Pos 4 welding on mild steel in groove and fillet fitments. Focuses on scientific principles that effect weld outcomes and how those principles can be used by welders to ensure quality weld and fabrication outcomes. Teaches use of Oxy-Fuel cutting equipment. Prerequisites: MFG 150. Audit available.							

	Upon successful completion of this course, students will be able to:
	1. Create Position 4 Fillet weldments using SMAW and GMAW processes for
	destructive testing as per AWS D1.1 code.
	2. Create Position 4 Groove weldments using SMAW and GMAW processes for
Outcomes: (Use	destructive testing as per AWS D1.1 code.
observable and	3. Accurately account for welding warp in mild steel processes.
measurable verbs)	4. Demonstrate knowledge of heat affected zone chemistry and its practical
	considerations in welding.
	5. Use Oxygen-Fuel cutting techniques to process and handle materials in a
	fabrication environment.
	6. Apply the technical skills and math needed to carry out correct joint
	preparation and fit-up.
	Outcomes are assessed through a mixture of hands on and written assessments.
	Priority is given to hands-on proficiency based assessment in an environment that
	rewards demonstration of skill needed for success in industry.
	 Lecture and in booth coaching and direct instruction.
	 Direct instruction in full class demonstration of skills.
Outromos concernant	Written exams.
outcomes assessment	Student proficiency through demonstration of learned strategies and skills
strategies.	in industry standard environment.
	 Mock AWS Testing procedure (destructive testing) or mock local industry
	supported on-site testing procedures.
	 Job readiness based on performance.
	• In class lab experiments and testing using the scientific process with
	written result reporting.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	

	Outcome #1: Create Position 4 Fillet weldments using SMAW and GMAW processes for destructive testing as per AWS D1.1 code.
	 Understand American Welding Society (AWS) D1.1 structural code for SMAW 7018 fillet weld process in position 4. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
	 Outcome #2: Create Position 4 Groove weldments using SMAW and GMAW processes for destructive testing as per AWS D1.1 code. Understand American Welding Society (AWS) D1.1 structural code for SMAW 7018 groove weld process in position 4. Prepare plate for welding according to structural. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Outcome #3: Accurately account for welding warp in mild steel processes. Define and predict using a formula the amount of warp an assembly will experience based on the expected heat input. Create basic tacked together assemblies with warp tolerances preaccounted for. Manufacture and finish assemblies and use quality control best practices to ensure tolerances are met post welding. Outcome #4: Demonstrate knowledge of heat affected zone chemistry and its practical considerations in welding and fabrication. Understand the chemical changes that occur within the heat effected zone and the resulting change in material structure. Define the different zones within the heat affected zone and how they are chemically and physically different from the welded zone and base material. Understand mitigation strategies for reducing heat affected zone size and fatigue in mild steel.
	 Prepare and implement heat affected zone mitigation strategies. Outcome #5: Use Oxygen-Fuel cutting techniques to process and handle materials in a fabrication environment. Understand Oxygen-Fuel cylinder safety and handling procedures. Demonstrate proper Oxy-Fuel cutting torch setup and shut down. Produce industry standard cuts in material up to 1" thick using appropriate cutting torch size and setup. Determine gas flow necessary for appropriate cutting torch operation. Understand practical and procedural differences in different types of fuel gasses commonly used in torch cutting. Demonstrate basic torch maintenance and upkeep procedures.

	 Outcome #6 Apply the technical skills and math needed to carry out correct joint preparation and fitup. Use circumference math and tube sizing formula to calculate the amount of tube needed to make bent product. Calculate angles of triangles and length of triangles in assemblies to accurately determine length of materials needed for projects. Accurately calculate material amount needed for large scale project from blueprints and cost material using online resources.
	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this.
Suggested Texts & Materials (specify if any texts or materials are required):	 The following books are recommended: Welding Skills, 5th Edition, B.J. Moniz Welding Skills Workbook, 5th Edition, Jonathan F. Gosse Print Reading for Welders, 5th Edition, Thomas E. Proctor, Jonathan F. Goss
	Some Suggested resources: AWS Structural Code Book 2020 Aeorspacewelding.com Thefabricator.com Aws.org Millerwelds.com Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	Yes 🖂 No	
Name of certificate(s):		# credit:
Name of degree(s):		# credit:
Will this new course be part	Yes	
Name of new certificate(s): Advanced Manufacturing Technology		# credit: 43
Name of new degree(s):		# credit:

Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course	
Is this course used to supply	related instruction for a certificate?	☐ Yes ⊠ No

If **yes**, the related instruction <u>form</u>, available on the curriculum office website, must be completed and submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Comparable CTE Elective	
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS	
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No	
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment		
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached		
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	∑ Yes – date: 10/27/2020 ☐ No	
Implementation term:	Start of next academic year (summer term) Specific term (if BEFORE next academic year):	
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but		

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date
Robert Clark	rclark@cgcc.edu	10-25-2020
Department Chair (enter name of department chair): Jim Pytel		
Department Dean (enter name of department dean): Mary Kramer		

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
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CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION						
Department:	CTE		Submitter name phone and email	R(54	Robert Wells-Clark 541-514-1589 <u>rclark@cgcc.edu</u>	
Prefix and Course Number:		MFG 152	Credits:		3	
Course Title: (60 characters max, including spaces)	Fabrication Processes 2		Transcript Title: (30 characters max, including spaces)		Fabricatio	on Processes 2
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	lent to an iption, ou	other? They must tcomes and credit.	☐ Yes ⊠ No	Pr	efix, numbe	r and title:
Reason for the new course.	Reason for the new course. To be included in the new Advanced Manufacturing Technology certificate.			īcate.		
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
	Check all that apply Default (Choose one)				t (Choose one)	
A-F (letter grade)						
Pass/No pass			s 🛛			
Audit in consultation with faculty						
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
[] Standard requisi	tes – Prer Prer	equisite: MTH 20 of eq equisite/concurrent: W	uivalent placement te: R 121.	st sc	ores.	
placement into:	placement into: placement into:					
course prefix & number: MFG 150		🛛 prerequisite [c	orequisite	pre/co	
course prefix & number:		prerequisite [🗌 corequisite 🗌 pre/co			
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Introduces common remanufacturing principles as well as basic material science as it applies to welding and weld processes in the manufacturing environment. Covers in depth material handling and processing for mild steel welding projects as well as mark up and annotation for large project work. Teaches skills a welding floor foreman would routinely use. Prerequisites: MFG 150. Audit available.						

	Upon successful completion of this course, students will be able to:	
Outcomes: (Use observable and	 Demonstrate knowledge of common welding repairs and processes for remanufacture or repair of equipment. 	
	 Apply basic materials science as it relates to mild steel and how manufacturing processes affect these materials. 	
	3. Use a carbon arc cutting rod and understand the CAC process and its uses in industry.	
measurable verbs)	 Identify common material and handling processes for longevity of materials manufactured out of mild steel. 	
	5. Apply annotation to large scale fabrication projects, allowing welding teams to accurately complete large team based tasks.	
	6. Demonstrate knowledge of coefficients of thermal expansion and their considerations as they apply to welding processes that occur on-site or in-field.	
Outcomes assessment strategies:	 considerations as they apply to welding processes that occur on-site or in-field Outcomes are assessed through a mixture of hands on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that rewards demonstration of skill needed for success in industry. Lecture and in booth coaching and direct instruction. Direct instruction in full class demonstration of skills. Written exams. Student proficiency through demonstration of learned strategies and skills in industry standard environment. Local industry supported on-site testing procedures. Assessment of job readiness based on performance. In class lab experiments and testing using the scientific process with written result reporting. 	

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	

	Outcome #1: Demonstrate knowledge of common welding repairs and processes for			
	 Identify different types of welding, manufacturing or usage damage and cause of that damage on existing equipment or product. Identify different types of damage caused by incorrect procedure, and identify repair process on new equipment or product. Demonstrate repair processes for different types of identified damage in welded and manufactured product. Understand the correct repair process and procedure to ensure long service life of repaired components. 			
	Outcome #2: Apply basic materials science as it relates to mild steel and how			
	 manufacturing processes affect these materials. Experiment with hardness, brittleness and ductility of mild steel before welding using the scientific process. Demonstrate the difference processed and welded product has in hardness, brittleness and ductility. Explain the basic metallurgical differences of mild steel before and after different processes are applied using empirical evidence. Identify different materials and alloys of those materials using readily 			
Course Content -	available processes in the manufacturing environment.			
organized by outcomes (list each outcome followed by an outline of the related content):	 Outcome #3: Use a carbon arc cutting rod (CAC) and understand the CAC process and its uses in industry. Understand the use of CAC processes in manufacturing and repair processes. Use CAC processes to create appropriate crack repair. Use CAC processes to appropriately repair incorrectly or poorly welded joints. Use CAC processes to create appropriate joints for full fusion and penetration of product previously incorrectly assembled or welded. 			
	Outcome #4: Identify common material handling processes for longevity of			
	materials manufactured out of mild steel.			
	 Understand different coatings applied to raw material to prevent rust and oxidation of mild steel prior to use. Demonstrate knowledge of processes and by-processes used at the mill to prevent rust and oxidation of raw mild steels. Understand mechanical processes used to prevent rust and oxidation prior to use. Demonstrate chemical processes used to remove rust and oxidation before use of mild steel for manufacturing. Demonstrate mechanical processes used to remove rust and oxidation before use of mild steel for manufacturing. 			
	Outcome #5: Apply annotation to large scale fabrication projects, allowing welding			
	 Understand common shorthand and symbols used for large project annotation. 			
	Demonstrate necessary knowledge of symbols and common shorthand a			

	 foreperson would use to accurately annotate large scale projects for a team of welders. Identify proper procedural order and process order and describe annotation of that order so teams on multiple shifts can accurately accomplish a large scale manufacturing product. Interpret Weld Procedure Specifications and apply annotation to projects so welding teams can precisely manufacture product without defect.
	 Outcome #6 Demonstrate knowledge of coefficients of thermal expansion and their considerations as they apply to welding processes that occur on-site or in-field and in controlled environments. Understand the mathematical expression of the coefficient of thermal expansion of steel. Use the mathematical expression of the coefficient of thermal expansion to inform welding process and procedure for field work. Use the mathematical expression of the coefficient of thermal expansion to inform the welding process and procedure for manufacturing in controlled environments.
Suggested Texts & Materials (specify if any texts or materials are required):	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this. The following books are recommended: • Welding Skills, 5 th Edition, B.J. Moniz • Welding Skills Workbook, 5 th Edition, Jonathan F. Gosse • Print Reading for Welders, 5 th Edition, Thomas E. Proctor, Jonathan F. Goss Some Suggested resources: • AWS Structural Code Book 2020 • Aeorspacewelding.com • Thefabricator.com • Aws.org • Millerwelds.com • Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part of existing, curr	ently approved CGCC certificate(s)
and/or degree(s)?	

	Yes
\boxtimes	No

Name of certificate(s):		# credit:	
Name of degree(s):		# credit:	
Will this new course be part	of a new, proposed CGCC certificate or degree?	Yes	
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43	
Name of new degree(s):		# credit:	
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course		
Is this course used to supply related instruction for a certificate?			
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.			

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES				
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Comparable CTE Elective			
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS			
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No			
Is there any potential impact on another department?				
course, such as: content overlap, course increase or decrease, etc.	duplication, prerequisite need, enrollment			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?				
Implementation term:	Start of next academic year (summer term) Specific term (if BEFORE next academic year):			

Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

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Submitter Email Date				
Robert Clarkrclark@cgcc.edu10-25-2020				
Department Chair (enter name of department chair): Jim Pytel				
Department Dean (enter name of department dean): Mary Kramer				

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
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Columbia Gorge Community College

CC date CC decision CC vote

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION						
Department:		CTE	Submitter name phone and email	ter name Robert Wells-Clark 541-514-1589 ail rclark@cgcc.edu		Clark du
Prefix and Course Number:		MFG 156	Credits:			3
Course Title: (60 characters max, including spaces)	Integrat	ed Manufacturing 1	Transcript Title: (30 characters max, including spaces)		Integrated Manufacturing 1	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Le Le La	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	llent to an ription, out	other? They must comes and credit.	└── Yes └── No	Pı	refix, numbei	r and title:
Reason for the new course.	To be inc	luded in the new Adva	nced Manufacturing T	ech	nology certif	icate.
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade)			\square			
Pass/No pass						
Audit in consultation with faculty Image: Consultation with faculty						
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)						
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores. Prerequisite/concurrent: WR 121.						
placement into: placement into:						
course prefix & number: MFG 155		∑ prerequisite	C] corequisite 🗌 pre/co		
course prefix & number: prerequisite corequisite pre/co			pre/co			
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at Writing Course Descriptions.						
Integrates the use of the 3 axis CNC, blueprints and manufacturing processes in the design and production of products. Introduces tolerances and quality control procedures, as well as backwards design principles and orthographic projection. Prerequisite: MFG 155. Audit available.						

Upon successful completion of this course, students will be able to:				
1. Fabricate product and tolerance from digital blueprints using SolidEdge 2D.				
2. Cut and assemble to a blueprint using basic CNC processes (3 axis).				
3. Apply a basic understanding of quality control processes and measuring.				
4. Use fixtures/jigs to accurately reproduce product.				
5. Explain thread cutting and pitches as well as their appropriate use and documentation.				
6. Draw orthographic projections of basic physical product.				
 Outcomes are assessed through a mixture of hands on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that rewards demonstration of skill needed for success in industry. Lecture and in booth coaching and direct instruction. Direct instruction in full class demonstration of skills. Written exams. Student proficiency through demonstration of learned strategies and skills in industry standard environment. Mock AWS Testing procedure (destructive testing) or mock local industry supported on-site testing procedures. Job readiness based on performance. In class lab experiments and testing using the scientific process with written result reporting. 				

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	

	 Outcome #1: Fabricate product and tolerance from digital blueprints using SolidEdge 2D Identify procedures needed and parts needed to create a product from a blueprint. Create product using manufacturing techniques to tolerance given. Check tolerances of created product and compare to blueprints after manufacturing. Outcome #2: Cut and assemble to a blueprint using basic CNC processes (3 axis) Using a blueprint, create a parts array that includes necessary parts to assemble product. Code and cut product using CNC process. Assemble / manufacture product to tolerance on blueprint.
	 Post manufacturing, process product with finishing techniques to prepare it for sale according to blueprint specified procedure. Outcome #3: Apply a basic understanding of quality control processes and
	 Demonstrate knowledge of slide rule calipers and their use in quality
	 Demonstrate knowledge of basic non-destructive weld testing procedures for quality assurance.
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Use precision measure implements to check physical tolerances of products. Use non-destructive testing to provide manufacturing feedback and procedural or process. based changes to improve product quality, cost or outcome.
	 Outcome #4: Use fixtures/jigs to accurate reproduce product Demonstrate knowledge of the purpose of fixtures/jigs in manufacturing processes and design. Generate parts arrays that allow the use of fixtures/jigs. Practice use of fixtures/jigs that can accurately recreate product and streamline quality control processes.
	Outcome #5: Explain thread cutting and pitches as well as their appropriate use
	 and documentation. Understand different grades of bolts and their metallurgical characteristics. Understand different usages of bolts in terms of thread pitch and appropriate load. Identify thread pitches in both external and internal threads. Recreate both internal and external threads in metals. Create appropriate fastening using correct bolt grade, size and pitch for a particular application and include in a blueprint.
	 Outcome #6 Draw orthographic projections of basic physical product. Accurately create an orthographic projection from an existing physical product. Create a 3d representation of a product from an orthographic projection. Apply tolerance and other annotation to orthographic projections as measured on a product.

	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this.
Suggested Texts & Materials (specify if any texts or materials are required):	 The following books are recommended: Welding Skills, 5th Edition, B.J. Moniz Welding Skills Workbook, 5th Edition, Jonathan F. Gosse
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Г

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New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.				
Will this new course be part and/or degree(s)?	of existing, currently approved CGCC certificate(s)	☐ Yes ⊠ No		
Name of certificate(s):		# credit:		
Name of degree(s):		# credit:		
Will this new course be part	Yes			
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course			
Is this course used to supply related instruction for a certificate?				
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SECTION #3 ADDITIONAL INFORMAT	TON FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Comparable CTE Elective			
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS			
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached				
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease, etc.				
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/27/2020			
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):				
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed				

beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

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the approval process and is available to be scheduled. Curriculum changes generally go into effect at the

Robert Clarkrclark@cgcc.edu10-25-2020	Submitter	Email	Date
	Robert Clark	<u>rclark@cgcc.edu</u>	10-25-2020

Department Chair (enter name of department chair): Jim Pytel

Department Dean (enter name of department dean): Mary Kramer

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION						
Department:	CTE		Submitter name phone and email	R 54 rc	Robert Wells-Clark 541-514-1589 rclark@cgcc.edu	
Prefix and Course Number:		MFG 157	Credits:		3	
Course Title: (60 characters max, including spaces)	Integrat	ed Manufacturing 2	Transcript Title: (30 characters max, including spaces)		Integrated Manufacturing 2	
May this course be repeated for credit?	Yes No	For how many times?	Contact hours:	Le Le	ecture: ec/lab: 60 ab:	
Is this course equiva have the same descr	llent to an iption, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Pi	refix, number and title:	
Reason for the new course.	To be inc	luded in the new Adva	anced Manufacturing T	ech	nology certificate.	
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.						
Check all that apply Default (Choose one)						
A-F (letter grade)						
Pass/No pass						
Audit in consultation with faculty						
REQUISITES: Identify	y prerequi	site, corequisite and co	oncurrent course(s)			
Standard requisi	tes – Prere Prere	equisite: MTH 20 or eq equisite/concurrent: W	uivalent placement te R 121.	st so	ores.	
placement into:		1 ·	placement into	:		
course prefix & number: MFG 156		🛛 prerequisite [c] corequisite 🗌 pre/co		
course prefix & number:						
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .						
Covers the creation of multi-part assemblies and the process of welding them together to specification. Builds on the precision measuring and quality control tolerance checks introduced in MFG 156. Discusses the integration of efficiencies and lean manufacturing principles in the everyday operations of a manufacturing business. Teaches how to build fixtures that accurately and repeatedly create product to tolerance. Prerequisites MFG 156. Audit available.						

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:				
	1. Create complex multi-part assemblies using self-created blueprints and				
	tolerances to demonstrate prototype manufacturing principles and processes.				
	 Integrate lean manufacturing principles into new and existing blueprints and designs. 				
	3. Perform nesting and multiple part processing in 3axis CNC processes.				
	4. Build assemblies that use mandrel bending equipment and accurately measure and bend tubing to specification.				
	 Fabricate fixtures/jigs to accurately, repeatedly and quickly replicate assemblies and product. 				
	 Use precision measuring to check tolerances of built assemblies for quality control, including checking and adjustment of fixtures/jigs. 				
Outcomes assessment strategies:	 Outcomes are assessed through a mixture of hands on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that rewards demonstration of skill needed for success in industry. Lecture and in booth coaching and direct instruction. Direct instruction in full class demonstration of skills. Written exams. Student proficiency through demonstration of learned strategies and skills in industry standard environment. Mock AWS Testing procedure (destructive testing) or mock local industry supported on-site testing procedures. Job readiness based on performance. In class lab experiments and testing using the scientific process with written result reporting. 				
COURSE CONTENT ACT	IVITIES AND DESIGN				

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	

	 Outcome #1: Create complex multi-part assemblies using self-created blueprints and tolerances to demonstrate prototype manufacturing principles and processes. Using best practices, design multipart assemblies including blueprints and orthographic projects using digital design software taking into account tolerance and manufacturing cost. Integrate tubing/pipe in to design processes seamlessly including correct weld blueprint and annotation. Build from own prints to tolerance complex multi-part assemblies. Test prototype assembly in intended application and collect appropriate research and development data.
	Outcome #2. Integrate lean manufacturing principles into new and existing
	bluoprints and dosigns
	 Demonstrate knowledge of multiple types of lean manufacturing principles and how they apply to the manufacturing spectrum. Identify procedural and process based changes based on research and development data from Outcome #1 to streamline timeline and increase cost efficiency of product creation. Explain how lean manufacturing process and practices are a key to success for small businesses in the local manufacturing and development environment.
Course Content –	Outcome #3: Perform nesting and multiple part processing in 3axis CNC processes.
organized by outcomes (list each outcome followed by an outline of the related content):	 Define nesting and multiple part processing in terms of coding and processing of blueprints for fabrication. Improve efficiency of existing design and blueprint by redesigning nesting and cutting procedures using existing tooling. Look at scope production and improve efficiency by integrating multiple processes and products in the same steps of production.
	Outcome #4. Puild accomplies that use mandred bending equipment and accurately
	 Outcome #4: Build assemblies that use manufet bending equipment and accurately measure and bend tubing to specification. Using knowledge and necessary applied math, accurately create prototype product from tube using mandrel bending equipment. Demonstrate appropriate tube/pipe notching and coping using integrated math to calculate angle of notch. Identify opportunities to simplify designs using tubing/pipe with bending equipment. Show mathematical process to calculate angles and radiuses needed to produce product from tube or pipe.
	Outcome #5: Fabricate fixtures/ijos to accurately, repeatedly and quickly replicate
	assemblies and product.
	 Taking existing product, propose a fixture/jig that will increase production efficiency.
	Use appropriate feedback from production floor (class feedback) to
	implement fixture/jig and design using CAD processes.
	• Build fixture/jig to test and check for an increase in efficiency compared to previous manufacturing process.
	Calculate cost savings in man hours and materials by using data collected

	to show process and procedural improvement in the manufacturing process				
	 Outcome #6 Use precision measuring to check tolerances of built assemblies for quality control, including checking and adjustment of fixtures/jigs. Show appropriate use of bore/scope equipment to check tubing and piping for deflection and warp. Demonstrate knowledge of micrometer use for quality control purposes. Identify appropriate tolerances for an assembly and apply to fixtures using precision measuring techniques. Demonstrate ability to do routine checks of fixture/jigs tolerance to ensure accurate and repeatable production. 				
Suggested Texts & Materials (specify if any texts or materials are required):	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this. The following books are recommended: • Welding Skills, 5 th Edition, BJ. Moniz • Welding Skills Workbook, 5 th Edition, Jonathan F. Gosse Some Suggested resources: • AWS Structural Code Book 2020 • Aeorspacewelding.com • Thefabricator.com • Aws.org • Millerwelds.com • Lincolnelectric.com				
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.				

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	☐ Yes ⊠ No	
Name of certificate(s):		# credit:
Name of degree(s):		# credit:
Will this new course be part of a new, proposed CGCC certificate or degree?		Yes
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43
Name of new degree(s):		# credit:

Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course	
Is this course used to supply related instruction for a certificate?		

If **yes**, the related instruction <u>form</u>, available on the curriculum office website, must be completed and submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Comparable CTE Elective		
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS			
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	∑ Yes – date: 10/27/2020 ☐ No		
Implementation term:	Start of next academic year (summer term) Specific term (if BEFORE next academic year):		
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but			

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Robert Clark	<u>rclark@cgcc.edu</u>	10-25-2020	
Department Chair (enter name of department chair): Jim Pytel			
Department Dean (enter name of department dean): Mary Kramer			

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION					
Department:	CTE		Submitter name phone and email	Robert Wells-Clark 541-514-1589 <u>rclark@cgcc.edu</u>	
Prefix and Course Number:	MFG 281		Credits:	3	
Course Title: (60 characters max, including spaces)	Aluminum GTAW/TIG Fabrication Processes 1		Transcript Title: (30 characters max, including spaces)	Aluminum GTAW/TIG Fab Proc 1	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Lecture: Lec/lab: 60 Lab:	
Is this course equiva have the same descr	llent to and	other? They must tcomes and credit.	☐ Yes ⊠ No	Prefix, number and title:	
Reason for the To be included in the new Advanced Manufacturing Technology certificate.			echnology certificate.		
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.					
	Check all that apply Default (Choose one)				
A-F (letter grade)					
Pass/No pass		s 🛛			
Audit in consultation with faculty		y 🛛			
REQUISITES: Identify prerequisite, corequisite and concurrent course(s)					
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores. Prerequisite/concurrent: WR 121.					
placement into:		placement into:			
course prefix & number: MFG 280		prerequisite	corequisite pre/co		
course prefix & number:		prerequisite corequisite pre/co			
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .					
Builds on the knowle knowledge of GTAW creating multipart as available.	edge of MI AC proces ssemblies	FG 280 by beginning st sses as they pertain to as in a production mar	tructural code welding welding aluminum and nufacturing environmer	practice and deepening d alloys. Provides experience nt. Prerequisites: MFG 280. Audit	

Outcomes: (Use observable and measurable verbs)	Upon successful completion of this course, students will be able to:
	1. Create Position 2 Fillet weldments using AC GTAW processes suitable for
	destructive testing as per AWS D1.2 code.
	2. Create Position 2 Groove weldments using AC GTAW processes suitable for
	destructive testing as per AWS D1.2 code.
	3. Identify and recognize the oxidation processes of aluminum components as
	they pertain to weld quality.
	4. Identify common GTAW AC weld errors and their corrections.
	 Demonstrate knowledge of procedural changes needed for welding different alloys of aluminum.
	6. Create multi-part assemblies from aluminum components with attention to
	tolerance and appropriate interpretation of a weld process sheet (WPS).
	Outcomes are assessed through a mixture of hands on and written assessments.
	Priority is given to hands-on proficiency based assessment in an environment that
	rewards demonstration of skill needed for success in industry.
	Lecture and in booth coaching and direct instruction.
	Direct instruction in full class demonstration of skills.
Outcomes assessment	Written exams.
strategies:	 Student proficiency through demonstration of learned strategies and skills is inductor standard environment.
	Mark AWS Testing procedure (destructive testing) or mask local inductry
	• Mock Aws resting procedure (destructive testing) of mock total mousily supported on-site testing procedures
	 Job readiness based on performance
	 In class lab experiments and testing using the scientific process with
	written result reporting.

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	

	 Outcome #1: Create Position 2 Fillet weldments using AC GTAW processes suitable for destructive testing as per AWS D1.2 code. Understand American Welding Society (AWS) D1.2 structural code for aluminum GTAW fillet weld process in position 2. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results. 		
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Outcome #2: Create Position 2 Groove weldments using AC GTAW processes suitable for destructive testing as per AWS D1.2 code. Understand American Welding Society (AWS) D1.2 structural code for aluminum GTAW groove weld process in position 2. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results. 		
	 Outcome #3: Identify and recognize the oxidation processes of aluminum components as they pertain to weld quality. Understand the chemical changes / reactions that happen when aluminum is exposed to oxygen in the air. Show understanding of appropriate cleanup and prep procedures based on type and extensiveness of oxidation formation on aluminum. Identify mechanical and chemical processes used to both prevent oxidation of different aluminum alloys and to clean up existing oxidation on aluminum surfaces. Recreate chemical reactions that cause oxidation, and reverse those oxidation reactions. 		
	 Outcome #4: Identify common GTAW AC weld errors and their corrections Look at different welds and identify problems in procedure, practice or weldment that have created poor weld quality. Find problems in weldment using destructive testing and determine cause. Using rubric, grade weld quality of peer's work in position 2 fillet and groove weldments, and recommend corrective actions to improve weld quality. Find problems in commercially available welded product and produce a corrective action report as a weld engineer or inspector would 		
	corrective action report as a weld engineer or inspector would.		
	Outcome #5: Demonstrate knowledge of procedural changes needed for welding		
	• Demonstrate knowledge of different frequencies and AC balance to use for		
	welding of 6061 aluminum alloy.		
	Demonstrate knowledge of different frequencies and AC balance to use for		
	welding 5052 aluminum alloy.		
	and 6000 series aluminum alloys.		
	Understand necessary procedural changes to avoid centerline cracking in		

	 5000 series aluminum alloys. Identify oxidation correction procedures and pre-weldment treatment procedures for cast aluminum weldments.
	 Understand procedural differences and best practices for welding "dirty" cast aluminum.
	 Outcome #6: Create multi-part assemblies from aluminum components with attention to tolerance and appropriate interpretation of a weld procedure specification (WPS). Demonstrate aluminum specific design processes in creation of a fabricated multi-part assembly Identify possible problems in the assembly and manufacturing of multi-part assemblies as they pertain to GTAW AC aluminum. Create a mock weld procedure specification (WPS) for a multi-part assembly, correctly identifying procedures for removal of oxidation and weldment prep and process preparation. Assemble to tolerance an aluminum multi-part assembly.
	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this.
Suggested Texts & Materials (specify if	 The following books are recommended: Welding Skills, 5th Edition, B.J. Moniz Welding Skills Workbook, 5th Edition, Jonathan F. Gosse
any texts or materials are required):	Some Suggested resources: AWS Structural Code Book 2020 Aeorspacewelding.com Thefabricator.com Aws.org Millerwelds.com Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)	

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	☐ Yes ⊠ No	
Name of certificate(s):		# credit:
Name of degree(s):		# credit:

Will this new course be part of a new, proposed CGCC certificate or degree? Yes No		
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43
Name of new degree(s):		# credit:
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course	
Is this course used to supply related instruction for a certificate?		
If ves the related instruction form available on the curriculum office website, must be completed and		

submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES		
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Compara CTE Elective	able
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS	
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No	
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No	
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment		☐ Yes ⊠ No
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.		
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/27/2020	
Implementation term:	Start of next academic year (summer terr Specific term (if BEFORE next academic y	m) year):

Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date
Robert Clark	rclark@cgcc.edu	10-25-2020
Department Chair (enter name of department chair): Jim Pytel		
Department Dean (enter name of department dean): Mary Kramer		

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION					
Department:	СТЕ		Submitter name phone and email	Robert Wells-Clark 541-514-1589 <u>rclark@cgcc.edu</u>	
Prefix and Course Number:	MFG 282		Credits:	3	
Course Title: (60 characters max, including spaces)	Aluminum GTAW/TIG Fabrication Processes 2		Transcript Title: (30 characters max, including spaces)	Aluminum GTA Fab Proc 2	W/TIG 2
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Lecture: Lec/lab: 60 Lab:	
Is this course equivalent to another? They must have the same description, outcomes and credit.		☐ Yes ⊠ No	Prefix, number and t	itle:	
Reason for the new course.	Reason for the To be included in the new Advanced Manufacturing Technology certificate.				
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.					
Check all that apply Default (Choose one)			ose one)		
A-F (letter grade)					
Pass/No pass		s 🖂			
Audit in consultation with faculty					
Standard requisites – Prerequisite: MTH 20 or equivalent placement test scores.					
placement into:			placement into:		
course prefix & number: MFG 281		prerequisite	corequisite pre/co		
course prefix & number:			prerequisite] corequisite 🗌 p	re/co
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .					
Builds on MFG 281 by continuing structural code practice, adding in pipe and tube welding techniques in aluminum, and creating pressure vessels in out of position weldments. Provides understanding of warp and how to account for warp in building multi-part assemblies, as well as sanitary / clean practices for welding					

aluminum. Prerequisite: MFG281. Audit available.

	Upon successful completion of this course, students will be able to:
	1. Create Position 3 Fillet weldments using AC GTAW processes suitable for
	destructive testing as per AWS D1.2 code.
	2. Create Position 3 Groove weldments using AC GTAW processes suitable for
Outcomes: (Use	destructive testing as per AWS D1.2 code.
observable and	3. Manufacture and weld product built from aluminum tube and pipe.
measurable verbs)	4. Create aluminum pressure vessels tested to 35psi in out of position weldments.
	5. Identify and account for warp in aluminum weldments and assemblies.
	6. Demonstrate knowledge of sanitary welding practices in GTAW AC aluminum
	processes.
	Outcomes are assessed through a mixture of hands on and written assessments.
	Phone is given to hands-on proficiency based assessment in an environment that
	 Lecture and in booth coaching and direct instruction
	 Direct instruction in full class demonstration of skills
	Written exams.
Outcomes assessment	 Student proficiency through demonstration of learned strategies and skills
strategies:	in industry standard environment.
	Mock AWS Testing procedure (destructive testing) or mock local industry
	supported on-site testing procedures.
	 Job readiness based on performance.
	 In class lab experiments and testing using the scientific process with
	written result reporting.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Department required	
course activities	
(optional):	
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Outcome #1: Create Position 3 Fillet weldments using AC GTAW processes suitable for destructive testing as per AWS D1.2 code. Understand American Welding Society (AWS) D1.2 structural code for aluminum GTAW fillet weld process in position 3. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
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	 Outcome #2: Create Position 3 Groove weldments using AC GTAW processes suitable for destructive testing as per AWS D1.2 code Understand American Welding Society (AWS) D1.2 structural code for aluminum GTAW Groove weld process in position 3. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
	 Outcome #3: Manufacture and weld product built from aluminum tube and pipe. Build aluminum weldment and products using multiple facets of fabrication and design including aluminum tube and pipe. Correctly identify amperage and frequency for appropriate joint fusion depending on location and fitment. Account for aluminum's unique characteristics when fabricating tube and pipe, especially with bends.
	 Outcome #4: Create aluminum pressure vessels tested to 35psi in out of position weldments. Demonstrate knowledge of amperage and frequency needed for correct penetration on aluminum joints. Use correct fitup and prep work to ensure the strongest joints possible. Show knowledge of manufacturing changes and machine adjustments needed when welding pressure-critical out of position joints. Prepare different tungsten end grinds to suit the joint being welded. Test welded out of position square pressure vessel to 35psi.
	 Outcome #5: Identify and account for warp in aluminum weldments and assemblies Define and predict amount of warp an assembly will experience based on the expected heat input. Create basic tacked together assemblies with warp tolerances preaccounted for. Manufacture and finish assemblies and use quality control best practices to ensure tolerances are met post welding.
	 Outcome #6 Demonstrate knowledge of sanitary welding practices in GTAW AC aluminum processes. Define and explain the uses of sanitary or clean manufacturing principles using aluminum. Prepare weldments using correct procedures for sanitary or clean manufacturing principles.

	 Weld materials using appropriate filler and welding processes to ensure sanitary or clean weld outcomes with appropriate joint strength. Post treat weldments or assemblies using correct sanitary or clean welding procedures.
Suggested Texts & Materials (specify if any texts or materials are required):	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this. The following books are recommended: • Welding Skills, 5 th Edition, B.J. Moniz • Welding Skills Workbook, 5 th Edition, Jonathan F. Gosse Some Suggested resources: • AWS Structural Code Book 2020 • Aeorspacewelding.com • Thefabricator.com • Aws.org • Millerwelds.com • Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	☐ Yes ⊠ No		
Name of certificate(s):		# credit:	
Name of degree(s):		# credit:	
Will this new course be part of a new, proposed CGCC certificate or degree?		Yes	
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43	
Name of new degree(s):		# credit:	
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):			
Is this course used to supply related instruction for a certificate?			
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.			

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Comparable CTE Elective		
IMPACT ON OTHER PROGRAMS AND DEPARTMENTS			
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease, etc.			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/27/2020		
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):			
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed			

beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

the approval process and is available to be scheduled. Curriculum changes generally go into effect at the

		Dute
Robert Clark <u>rclark@</u>	D <mark>cgcc.edu</mark>	10-25-2020

Department Chair (enter name of department chair): Jim Pytel

Department Dean (enter name of department dean): Mary Kramer

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION					
Department:	CTE		Submitter name phone and email	Robert Wells-Clark 541-514-1589 <u>rclark@cgcc.edu</u>	
Prefix and Course Number:	MFG 285		Credits:	3	
Course Title: (60 characters max, including spaces)	Stainless Steel GTAW/TIG Welding		Transcript Title: (30 characters max, including spaces)	Stainless Steel GTAW/TIG Weldg	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Lecture: Lec/lab: 60 Lab:	
Is this course equiva have the same descr	llent to and iption, out	other? They must tcomes and credit.	☐ Yes ⊠ No	Prefix, number and title:	
Reason for the new course.	To be inc	luded in the new Adva	nced Manufacturing Te	echnology certificate.	
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.					
	Check all that apply Default (Choose one)				
A-F (letter grade)					
Pass/No pass					
Audit in consultation with faculty Image: Consultation con					
REQUISITES: Identify prerequisite, corequisite and concurrent course(s) Standard requisites - Prerequisite: MTH 20 or equivalent placement test scores. Prerequisite/concurrent: WR 121.					
placement into:			placement into:		
course prefix & number: WLD 195		prerequisite	corequisite pre/co		
course prefix & number: MFG 150			Corequisite pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .					
Introduces the use of GTAW/TIG equipment on stainless steel alloys, and the methods and techniques for welding on them. Explores different techniques and special shielding gas requirements for pipe, fillet and butt weldment as well as covering prep of materials, consumables and tungsten. Prerequisites: WLD 195,					

Co-Requisite: MFG 150. Audit available.

LEARNING OUTCOMES: Describe what the student will be able to do "out there" (in their life roles as worker, family member, community citizen, global citizen or lifelong learners). Outcomes must be measurable through the application of direct and/or indirect assessment strategies. Three to six outcomes are recommended. Start each outcome with an active verb, completing the sentence starter provided. (See <u>Writing Learning Outcomes</u> on the curriculum website.)

	•
	Upon successful completion of this course, students will be able to:
Outcomes: (Use	1. Demonstrate understanding of the unique shielding gas and back purging
	procedures necessary when welding and manufacturing products from stainless
	steel.
	2. Identify stainless steel alloy properties and common use as they pertain to
	manufacturing.
observable and measurable verbs)	3. Manufacture DC GTAW stainless steel pipe, fillet and groove weldments.
	4. Correctly clean and prep weldments and tungsten for DC GTAW on stainless
	steel.
	5. Demonstrate understanding of DC GTAW machine operation, setup and
	assembly of torch parts.
	6. Manufacture a basic stainless steel pressure vessel.
	Outcomes are assessed through a mixture of hands on and written assessments.
	Priority is given to hands-on proficiency based assessment in an environment that
	rewards demonstration of skill needed for success in industry.
	Lecture and in booth coaching and direct instruction.
Outcomes assessment	 Direct instruction in full class demonstration of skills.
strategies:	Written exams.
strategies.	 Student proficiency through demonstration of learned strategies and skills
	in industry standard environment.
	Mock AWS Testing procedure (destructive testing) or mock local industry
	supported on-site testing procedures.
	Job readiness based on performance.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Department required	
course activities	
(optional):	

	Outcome #1: Demonstrate understanding of the unique shielding gas and back purging procedures necessary when welding and manufacturing products from
	 Identify different types of shielding gas and their application in welding processes and what gasses are used in GTAW welding of stainless steel alloys
	 Understand the use and necessity of back purging equipment in GTAW welding of stainless steel alloys.
	 Demonstrate GTAW shielding gas techniques to minimize carbon contamination / corrosion / loss of austenitic properties in stainless steel.
	 Demonstrate GTAW back purging to prevent "sugaring" oxidation on the back of stainless steel joints and pipe.
	Outcome #2: Identify stainless steel alloy properties and common use as they pertain to manufacturing.
	 Identify properties of 304 Stainless steel alloy, and it's uses in the manufacturing industry. Know the differences between 304SS from 308 and 316
	 Identify properties of 308 stainless steel alloy, and it's uses in the manufacturing industry. Know the differences between 308SS from 304 and 316.
Course Content – organized by outcomes (list each	• Identify properties of 316 stainless steel alloy and it's uses in the manufacturing industry. Know the difference between 316SS from 304 and 316.
outcome followed by	
an outline of the	Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments
an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab.
an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side.
an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side. Outcome #4: Correctly clean and prep weldments and tungsten for DC GTAW on stainless steel.
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an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side. Outcome #4: Correctly clean and prep weldments and tungsten for DC GTAW on stainless steel. Clean and prepare materials for welding using chemical cleaning agents appropriate for stainless steel. Clean and prepare materials for welding using machine cleaning processes and procedures appropriate for stainless steel.
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an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side. Outcome #4: Correctly clean and prep weldments and tungsten for DC GTAW on stainless steel. Clean and prepare materials for welding using chemical cleaning agents appropriate for stainless steel. Clean and prepare materials for welding using machine cleaning processes and procedures appropriate for stainless steel. Post clean materials using chemical agents or electrochemical process as done in industry applications. Know appropriate chemical MSDS and first aid.
an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side. Outcome #4: Correctly clean and prep weldments and tungsten for DC GTAW on stainless steel. Clean and prepare materials for welding using chemical cleaning agents appropriate for stainless steel. Clean and prepare materials for welding using machine cleaning processes and procedures appropriate for stainless steel. Post clean materials using chemical agents or electrochemical process as done in industry applications. Know appropriate chemical MSDS and first aid. Outcome #5: Demonstrate understanding of DC GTAW machine operation, setup and assembly of torch parts.
an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side. Outcome #4: Correctly clean and prep weldments and tungsten for DC GTAW on stainless steel. Clean and prepare materials for welding using chemical cleaning agents appropriate for stainless steel. Clean and prepare materials for welding using machine cleaning processes and procedures appropriate for stainless steel. Post clean materials using chemical agents or electrochemical process as done in industry applications. Know appropriate chemical MSDS and first aid. Outcome #5: Demonstrate understanding of DC GTAW machine operation, setup and assembly of torch parts. Identify the correct tungsten types for use in DC GTAW and Stainless Steel welding.
an outline of the related content):	 Outcome #3: Manufacture DC GTAW stainless steel pipe, fillet and groove weldments. Perform pipe, butt, and fillet welds on aluminum of varying thicknesses using GTAW welder in lab. Perform 1G and 2G welds including correct prep of materials. Knowledge of necessary amperage adjustments to ensure full penetration of welds with a blind back side. Outcome #4: Correctly clean and prep weldments and tungsten for DC GTAW on stainless steel. Clean and prepare materials for welding using chemical cleaning agents appropriate for stainless steel. Clean and prepare materials for welding using machine cleaning processes and procedures appropriate for stainless steel. Post clean materials using chemical agents or electrochemical process as done in industry applications. Know appropriate chemical MSDS and first aid. Outcome #5: Demonstrate understanding of DC GTAW machine operation, setup and assembly of torch parts. Identify the correct tungsten types for use in DC GTAW and Stainless Steel welding. Identify the correct gas lens size and flow specific to DC GTAW welding on stainless steel.

	 Identify parts used specifically for DC GTAW Welding. Identify correct amperage for different thicknesses and alloys of material. Setup DC GTAW equipment for welding stainless steel, including correct pulse settings. Outcome #6: Manufacture a basic stainless steel pressure vessel. Manufacture a basic stainless steel pressure vessel from two different schedules of pipe and test to specification. Manufacture a basic stainless steel pressure vessel from plate and test to specification.
	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this.
Suggested Texts & Materials (specify if any texts or materials are required):	 The following books are recommended: Welding Skills, 5th Edition, BJ. Moniz Welding Skills Workbook, 5th Edition, Jonathan F. Gosse
	Some Suggested resources: AWS Structural Code Book 2020 Aeorspacewelding.com Thefabricator.com Aws.org Millerwelds.com Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	☐ Yes ⊠ No	
Name of certificate(s):		# credit:
Name of degree(s):		# credit:
Will this new course be part	Yes	
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43
Name of new degree(s):	# credit:	

Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course	
Is this course used to supply related instruction for a certificate?		

If **yes**, the related instruction <u>form</u>, available on the curriculum office website, must be completed and submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.Central Oregon Community College: Comparable CTE Elective			
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS		
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	Νο		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease etc			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/27/2020		
Implementation term: Start of next academic year (summer term) Implementation term: Specific term (if BEFORE next academic year):			
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but			

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Robert Clark <u>rclark@cgcc.edu</u> 10-25-2			
Department Chair (enter name of department chair): Jim Pytel			
Department Dean (enter name of department dean): Mary Kramer			

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION					
	ient: CTE		Submitter name	Robert Wells-Clark	
Department:			phone	541-514-1589	
			and email	<u>rclark@cgcc.edu</u>	
Prefix and Course Number:		MFG 286	Credits:	3	
Course Title: (60 characters max,	Stainle	ess Steel GTAW/TIG	Transcript Title: (30 characters max,	Stainless Steel GTAW/TIG Fab 1	
including spaces)	1	-abrication 1	including spaces)		
May this course be	🗌 Yes	For how many		Lecture:	
repeated for credit?	No No	times?	Contact hours:	Lec/lab: 60 Lab:	
Is this course equiva	lent to an	other? They must	🗌 Yes	Prefix, number and title:	
have the same descr	ription, out	comes and credit.	🖂 No		
Reason for the new course.	To be inc	luded in the new Adva	inced Manufacturing Te	echnology certificate.	
GRADE OPTIONS: Ch	neck as ma	ny or as few options a	s you'd like. Choose the	e default grade option. The	
default grade refers	to the opt	ion that is listed at the	e top of the dropdown r	nenu for the CRN. Students who	
do not make a choic	e or do no	t make a change in the	e dropdown menu will a	automatically be assigned to the	
default grade option	1.				
			Check all that appl	y Default (Choose one)	
A-F (letter grade)					
Pass/No pass		s 🛛			
Audit in consultation with faculty					
REQUISITES: Identify	y prerequi	site, corequisite and co	oncurrent course(s)		
Standard requisi	tes – Prere	equisite: MTH 20 or eq	uivalent placement tes	t scores.	
	Prere	equisite/concurrent: W	R 121.		
placement into:					
course prefix & number: MFG 285					
course prefix & number: prerequisite corequisite pre/co					
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course					
description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .					
Builds on the skills learned in MFG 285 by introducing welding to AWS code for stainless steel alloys.					
Introduces fabrication of stainless steel assemblies and the different procedural and prep changes for					
different stainless steel alloys. Presents AWS tolerances in color and purity in stainless steel welding, and					
MFG 285. Audit avai	MFG 285. Audit available.				

LEARNING OUTCOMES: Describe what the student will be able to do "out there" (in their life roles as worker, family member, community citizen, global citizen or lifelong learners). Outcomes must be measurable through the application of direct and/or indirect assessment strategies. Three to six outcomes are recommended. Start each outcome with an active verb, completing the sentence starter provided. (See <u>Writing Learning Outcomes</u> on the curriculum website.)

	Upon successful completion of this course, students will be able to:
	1. Create Position 2 Fillet weldments using DC GTAW processes suitable for
	destructive testing as per AWS D1.6 code.
	2. Create Position 2 Groove weldments using DC GTAW processes suitable for
Outcomes: (Use	destructive testing as per AWS D1.6 code.
observable and	3. Manufacture stainless steel multi-part assemblies.
measurable verbs)	4. Identify weld errors in stainless steel DC GTAW welding and necessary
	corrections.
	5. Recognize and explain changes in procedure when dealing with different
	stainless steel alloys.
	6. Demonstrate knowledge of AWS acceptable color and surface tolerances and
	Cutsomes are assessed through a mixture of hands on and written assessments
	Duccomes are assessed through a mixture of hands on and whiteh assessments.
	rewards demonstration of skill pooled for success in industry
	Lecture and in beeth coaching and direct instruction
	Electure and in booth coaching and direct instruction.
	Direct instruction in full class demonstration of skills.
Outcomes assessment	• Whiteh exams.
strategies:	• Student proficiency through demonstration of learned strategies and skills
5	In industry standard environment.
	Mock AWS Testing procedure (destructive testing) or mock local industry
	supported on-site testing procedures.
	Job readiness based on performance.
	In class lab experiments and testing using the scientific process with
	written result reporting.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Department required	
course activities	
(optional):	

	 Outcome #1: Create Position 2 Fillet weldments using DC GTAW processes suitable for destructive testing as per AWS D1.6 code. Understand American Welding Society (AWS) D1.6 structural code for DC GTAW stainless steel fillet weld process in position 2. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
	 Outcome #2: Create Position 2 Groove weldments using DC GTAW processes suitable for destructive testing as per AWS D1.6 code. Understand American Welding Society (AWS) D1.6 structural code for DC GTAW stainless steel groove weld process in position 2. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
Course Content – organized by outcomes (list each outcome followed by an outline of the related content):	 Outcome #3: Create multi-part assemblies from stainless steel components with attention to tolerance and appropriate interpretation of a weld procedure specification (WPS). Demonstrate stainless steel specific design processes in creation of a fabricated multi-part assembly. Identify possible problems in assemble and manufacturing of multi-part assemblies as they pertain to GTAW DC stainless steel. Create a mock weld procedure specification (WPS) for a multi-part assembly correctly identifying procedures for weldment prep, and process preparation. Assemble to tolerance a stainless steel multi-part assembly.
	 Outcome #4: Identify weld errors in stainless steel DC GTAW welding and necessary corrections. View and determine amperage problems and corrections. View and determine gas flow and purging problems and corrections. Practice chemical corrections to stainless steel parts to retain austenitic properties. Demonstrate knowledge and procedures for mechanical corrections to stainless steel properties to retain austenitic properties. Outcome #5: Recognize and explain changes in procedure when dealing with different stainless steel alloys Understand amperage rates and best practices for 304, 308 and 316 stainless steel alloys. Understand amperage rates and best practices for 304, 308 and 316 stainless steel alloys. Know basic filler rod preparation techniques. Show knowledge of potential weldment issues when using incorrect filler or mixing filler types in stainless steel welding procedures. Explain gas flow rate differences for different alloys and procedures. Demonstrate knowledge of equipment differences necessary when welding

	304, 308 and 316 stainless steel alloys.
	 Outcome #6 Demonstrate knowledge of AWS acceptable color and surface tolerances and the procedural relationship of those colors and surfaces to process. Read and understand AWS coloring, gas types, purging, and surface oxidation literature and charts. Accurately reproduce different coloring / surface oxidations according to AWS tolerance charts. Demonstrate knowledge of different applications of oxidation in stainless steel welding as appropriate.
Suggested Texts & Materials (specify if any texts or materials are required):	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this.
	 The following books are recommended: Welding Skills, 5th Edition, BJ. Moniz Welding Skills Workbook, 5th Edition, Jonathan F. Gosse Some Suggested resources: AWS Structural Code Book 2020 Aeorspacewelding.com Thefabricator.com Aws.org Millerwelds.com
	Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	☐ Yes ⊠ No	
Name of certificate(s):		# credit:
Name of degree(s):		# credit:
Will this new course be part of a new, proposed CGCC certificate or degree?		Yes
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43
Name of new degree(s):		# credit:

Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course		
Is this course used to supply related instruction for a certificate?			

If **yes**, the related instruction <u>form</u>, available on the curriculum office website, must be completed and submitted together with this form.

SECTION #3 ADDITIONAL INFORMATION FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.Central Oregon Community College: Comparable CTE Elective			
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS		
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No		
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	Νο		
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment increase or decrease etc			
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.			
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/27/2020		
mplementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):			
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed the approval process and is available to be scheduled. Curriculum changes generally go into effect at the beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but			

accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

"I vouch that this submission has been reviewed by the affiliated department chair and department dean and that they have given initial authorization for this submission. I am requesting that it be placed on the next Curriculum Committee agenda with available time slots. I understand that I am required to complete and submit, prior to the day my submission is reviewed by the Curriculum Committee, a Course Signature Form signed by the department chair and dean."

Submitter	Email	Date	
Robert Clark	rclark@cgcc.edu	10-25-2020	
Department Chair (enter name of department chair): Jim Pytel			
Department Dean (enter name of department dean): Mary Kramer			

NEXT STEPS:

- 1. Save this document as the course prefix and number (e.g. MTH 65 or HST 104). Send completed form electronically to <u>curriculum@cgcc.edu</u> or <u>slewis@cgcc.edu</u>.
- 2. Refer to the curriculum office website for the Curriculum Committee <u>meeting schedule and submission</u> <u>deadlines</u>. You are encouraged to send submissions prior to the deadline so that the curriculum office may review and provide feedback.
- 3. Course submissions will be placed on the next agenda with available time slots. You will be notified of your submission's time for review, and you will be sent a signature page that may be completed electronically or manually by your department chair and department dean. It is the submitter's responsibility to ensure that completed signature pages are delivered to the Curriculum Office the day before the Curriculum Committee meeting for which the submission is scheduled. Submissions without signed signature pages will be postponed.
- 4. It is not mandatory that you attend the Curriculum Committee meeting in which your submission is scheduled for review; however, it is strongly encouraged that you attend so that you may represent your submission and respond to any committee questions. Unanswered questions may result in a submission being rescheduled for further clarification.

CC date CC decision CC vote

Columbia Gorge Community College

New Course Career Technical Education (CTE)

(Double click on check boxes to activate dialog box)

SECTION #1 GENERAL INFORMATION					
Department:	CTE		Submitter name phone and email	Robert Wells-Clark 541-514-1589 rclark@cgcc.edu	
Prefix and Course Number:		MFG 287	Credits:	3	
Course Title: (60 characters max, including spaces)	Stainless Steel GTAW/TIG Fabrication 2		Transcript Title: (30 characters max, including spaces)	Stainless Steel GTAW/TIG Fab 2	
May this course be repeated for credit?	☐ Yes ⊠ No	For how many times?	Contact hours:	Lecture: Lec/lab: 60 Lab:	
Is this course equiva have the same descr	llent to and	other? They must comes and credit.	☐ Yes ⊠ No	Prefix, number and title:	
Reason for the new course.	To be inc	luded in the new Adva	anced Manufacturing Te	echnology certificate.	
GRADE OPTIONS: Check as many or as few options as you'd like. Choose the default grade option . The default grade refers to the option that is listed at the top of the dropdown menu for the CRN. Students who do not make a choice or do not make a change in the dropdown menu will automatically be assigned to the default grade option.					
Check all that apply Default (Choose one)					
A-F (letter grade)			2)	\square	
Pass/No pass			s 🛛		
Audit in consultation with faculty		y 🛛			
REQUISITES: Identif	y prerequis	site, corequisite and co	oncurrent course(s)		
Standard requisi	tes – Prere Prere	equisite: MTH 20 or eq equisite/concurrent: W	uivalent placement tes R 121.	t scores.	
placement into:			placement into:		
course prefix & number: MFG 286		prerequisite	Corequisite pre/co		
course prefix & number:] corequisite 🗌 pre/co		
COURSE DESCRIPTION : To be used in the catalog and schedule of classes. Begin each sentence of the course description with an active verb. Avoid using the phrases: "This course will" and/or "Students will" Include course requisites in the description. Guidelines for writing concise descriptions can be found at <u>Writing Course Descriptions</u> .					
Builds on MFG 286, introducing Position 3 AWS D1.6 structural code destructive testing as well as working with welding and preparing tube/pipe and pressure vessels. Provides critical skills to handle warp as well as sanitary/food grade stainless steel welding processes. Prerequisites: MFG 286. Audit available.					

LEARNING OUTCOMES: Describe what the student will be able to do "out there" (in their life roles as worker, family member, community citizen, global citizen or lifelong learners). Outcomes must be measurable through the application of direct and/or indirect assessment strategies. Three to six outcomes are recommended. Start each outcome with an active verb, completing the sentence starter provided. (See <u>Writing Learning Outcomes</u> on the curriculum website.)

	Upon successful completion of this course, students will be able to:
	 Create Position 3 Fillet weldments using DC GTAW processes suitable for destructive testing as per AWS D1.6 code.
	 Create Position 3 Groove weldments using DC GTAW processes suitable for destructive testing as per AWS D1.6 code.
observable and	3. Manufacture and weld product built from stainless steel tube and pipe.
measurable verbs)	4. Create stainless steel pressure vessels tested to 35 psi in out of position weldments.
	5. Recognize and account for warp in stainless steel weldments and assemblies.
	 Demonstrate knowledge of sanitary and food grade welding practices in GTAW DC stainless steel processes.
Outcomes assessment strategies:	 Outcomes are assessed through a mixture of hands on and written assessments. Priority is given to hands-on proficiency based assessment in an environment that rewards demonstration of skill needed for success in industry. Lecture and in booth coaching and direct instruction. Direct instruction in full class demonstration of skills. Written exams. Student proficiency through demonstration of learned strategies and skills in industry standard environment. Mock AWS Testing procedure (destructive testing) or mock local industry supported on-site testing procedures. Job readiness based on performance. In class lab experiments and testing using the scientific process with written result reporting.

COURSE CONTENT, ACTIVITIES AND DESIGN

Activity & Design: The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. On occasion, a department may decide that the inclusion of a particular strategy will be required (specify in "required activities" box below). For example, a department may determine that a course will be required to incorporate a service learning project into its curriculum delivery. However, for the most part, delivery mechanisms fall under academic freedom and so the individuality and creativity of each instructor.

Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Department required	
course activities	
(optional):	

	 Outcome #1: Create Position 3 Fillet weldments using DC GTAW processes suitable for destructive testing as per AWS D1.6 code. Understand American Welding Society (AWS) D1.6 structural code for Stainless Steel GTAW fillet weld process in position 3. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
	 Outcome #2: Create Position 3 Groove weldments using DC GTAW processes suitable for destructive testing as per AWS D1.6 code. Understand American Welding Society (AWS) D1.2 structural code for Stainless Steel GTAW Groove weld process in position 3. Prepare plate for welding according to structural standard. Weld plate to code specification. Prepare plate for destructive testing per AWS Code. Interpret destructive testing results.
Course Content – organized by outcomes (list each outcome followed by	 Outcome #3: Manufacture and weld product built from stainless steel tube and pipe. Build stainless steel weldment and products using multiple facets of fabrication and design including stainless steel tube and pipe. Correctly identify amperage and frequency for appropriate joint fusion depending on location, fitment and process. Ensure correct blind-side weld quality using appropriate welding process, technique and procedure.
an outline of the related content):	 Outcome #4: Create stainless steel pressure vessels tested to 35psi in out of position weldments. Use correct fitup and prep work to ensure the strongest joints possible. Show knowledge of manufacturing procedure and machine adjustments necessary when welding pressure critical out of position joints. Test welded out of position square pressure vessel to 35 psi. Test welded out of position round pressure vessel to 35 psi. Outcome #5: Recognize and account for warp in stainless steel weldments and
	 assembles. Define and predict amount of warp an assembly will experience based on the expected heat input. Create basic tacked together assemblies with warp tolerances preaccounted for. Manufacture and finish assemblies and use quality control best practices to ensure tolerances are met post welding.
	 Outcome #6 Demonstrate knowledge of sanitary and food grade welding practices in GTAW DC stainless steel processes. Define and explain the uses of sanitary or clean manufacturing principles using stainless steel. Prepare weldments using correct procedures for sanitary and food-grade manufacturing principles. Weld materials using appropriate welding processes to ensure sanitary or

	 food-grade weld outcomes with appropriate joint strength. Post treat weldments or assemblies using correct sanitary or clean welding procedures and food-grade approved chemical processes.
	Resources are available openly on the web, but largely the curriculum adaptation needs to be done based on the instructors existing skill set. Since there are many ways to teach the content, the "teach what you know, and teach well what you do" is very appropriate for courses like this.
Suggested Texts & Materials (specify if	 The following books are recommended: Welding Skills, 5th Edition, B.J. Moniz Welding Skills Workbook, 5th Edition, Jonathan F. Gosse
any texts or materials are required):	Some Suggested resources: AWS Structural Code Book 2020 Aeorspacewelding.com Thefabricator.com Aws.org Millerwelds.com Lincolnelectric.com
Department Notes (optional)	Safety glasses are required at all times in the welding lab and are provided for students. Students may also purchase their own safety glasses from a local supplier. Long pants and closed toed shoes are required in the welding lab at all times. Appropriate clothing must be worn to work in the lab (no synthetic materials, ect.). Safety requirements are covered prior to work in the lab.

SECTION #2 FUNCTION OF COURSE WITHIN EXISTING AND/OR NEW PROGRAM(S)

New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate.

Will this new course be part and/or degree(s)?	☐ Yes ⊠ No			
Name of certificate(s):		# credit:		
Name of degree(s):		# credit:		
Will this new course be part	of a new, proposed CGCC certificate or degree?	Yes		
Name of new certificate(s):	Advanced Manufacturing Technology	# credit: 43		
Name of new degree(s):		# credit:		
Briefly explain how this course fits into the new or existing degrees /certificates noted above (i.e. requirement or elective):	Required course			
Is this course used to supply related instruction for a certificate?				
If yes, the related instruction <u>form</u> , available on the curriculum office website, must be completed and submitted together with this form.				

SECTION #3 ADDITIONAL INFORMAT	TON FOR NEW CTE COURSES			
Transferability: Will this course transfer to another academic institution? Identify and describe the nature of the transfer.	Central Oregon Community College: Comparable CTE Elective			
IMPACT ON OTHER PROGRAMS AND DE	PARTMENTS			
Are there degrees and/or certificates that are affected by the instruction of this course? If so, provide details.	No			
Are there similar courses existing in other programs or disciplines at CGCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached.	No			
Is there any potential impact on another department? Identify and consult with Department chairs whose courses may be impacted by this course, such as: content overlap, course duplication, prerequisite need, enrollment				
Explain and/or describe the nature of acknowledgments and/or agreements that have been reached.				
Has the Library director been notified regarding the addition of this course and the need for any potential resources?	Yes – date: 10/27/2020			
Implementation term: Start of next academic year (summer term) Specific term (if BEFORE next academic year):				
Course approval is dependent on approval of the related certificate/degree submission which documents the placement of the new course. Degree/certificate status will impact the speed of the process. The Curriculum Office will notify the submitter, department chair, and department director when the course has completed				

beginning of the next academic year (summer term). Mid-year revisions/additions are discouraged but accommodated when possible if there is a specific, identifiable need.

SECTION #4 DEPARTMENT REVIEW

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the approval process and is available to be scheduled. Curriculum changes generally go into effect at the

Submitter	Email	Date
Robert Clark	rclark@cgcc.edu	10-25-2020

Department Chair (enter name of department chair): Jim Pytel

Department Dean (enter name of department dean): Mary Kramer

Columbia Gorge Community College

Submitted

CC date CC decision

CC vote

		NEW CERTIFICATE	REQUEST			
Submitted by: Robert V	Vells-Clark	Email: <u>rclark@cgcc.edu</u>	Phone: 541-514-1589	Department: CTE		
		(Double click on check boxes to	activate dialog box)			
		SECTION #1 OVER	VIEW			
Proposed Title:		Advanced Manufacturing Techno	ology	Proposed Credits:	43	
	The Advanced Manufactor One-Year certificate for further develops the man proposed AAS in Advance The courses are develop manufacturing workers w equipment and welding a basic or entry-level of apprenticeship. The prop concepts and developme	uring Certificate is an expansion of Manufacturing. It builds upon mainufacturing skills students will fu ed Manufacturing Technology for ed to meet increasing local need who can exhibit skills outside of t certification preparation. Student instruction to prepare them for w posed certificate would allow a m ent of much more intermediate sk	of the existing Less- than- ny of the existing courses and rther build on in the Fall of 2022. for well-rounded he operation of welding s currently get instruction at ork force entry or uch deeper dive in to these ill sets.			
Reason for new certificate:	By training fitment, math more well-rounded emp allow the employee the foreperson level skill set	n and science, the needed bluepri loyee will be available to the loca opportunity for further advancem s.	nt and production skills, a al workforce. These skills ent, if plateaued, by teaching	Requested implementation term:	Fall 2021	
	This certificate prepares advancement of manufa- which aims to relieve loo offer a hybrid employee in the gorge. Its ideas ar participation in the STEN Advisory Committee.	those enrolled for engineering co cturing skills in the second year o cal industry of some need of class that fits well within the spectrum e founded upon communication v A Advisory committee and Electro	oncepts and further of the eventual proposed AAS, nically trained engineers and of manufacturing happening with local industry and current o-Mechanical Technology			

	- <u>https://www.b</u> - <u>https://www.b</u> - <u>https://www.b</u> - <u>https://www.b</u> - <u>https://www.b</u>	Is.gov/oes/current/oes512041.htm Is.gov/oes/current/oes514023.htm Is.gov/oes/current/oes514033.htm Is.gov/oes/current/oes514041.htm Is.gov/oes/current/oes514035.htm Is.gov/oes/current/oes514121.htm				
Is there impact on other areas of instruction? If yes, have you talked with impacted departments and resolved any and all possible issues?	☐ Yes ⊠ No ☐ Yes ☐ No	Explanation of issu	ues	and how they are being resolved:	Has the certificate been validated by the Advisory Committee? Date of Advisory Committee meeting:	☐ Yes ☐ No Official Advisory Committee not yet formed, expected 3/2021
Is this a Statewide Certificate?		Yes 🛛 No	If so, has the certificate been approved by the consortium?		Yes No	
Is this a Related Certificate?		Yes No		Is this a Career Pathway?		🗌 Yes 🛛 No

SECTION #2 PREREQUISITES AND OUTCOMES

Note that degree/certificate/program entry prerequisites are only enforceable in limited entry programs. Program prerequisites for open entry programs only have meaning when they are representative of prerequisites associated to specific courses within the program. Prerequisites that students are not able to test out of using Next Gen Accuplacer result in hidden degree/certificate requirements and should be avoided. (Courses that may be tested out of using Next Gen Accuplacer include: RD 90, RD 115, WR 90, WR 115, MTH 20, MTH 60, MTH 65, MTH 95, MTH 98, MTH 105, MTH 111, MTH 112.)

PROPOSED PRE and/or COREQUISITES					
Course Number Course Title or Placement level Requisites Credits					
Placement into RD 90	Transformative Reading				
Placement into WR 90	Introductory Writing				
MTH 20	Basic Math	Placement into MTH 20	4		

Is this a limited entry program? Students must apply, via the department for program entry.

🗌 Yes 🛛 🕅 No

PROPOSED OUTCOMES

Describe what the student will be able to do "out there" (in their life roles as worker, family member, community citizen, global citizen or lifelong learners). Outcomes must be measurable through the application of direct and/or indirect assessment strategies. Three to six outcomes are recommended. Start each outcome with an active verb, completing the sentence starter provided. (See <u>Writing Learning Outcomes</u> on the curriculum website.)

Students who successfully complete this certificate will be able to:

1. Produce welds to AWS D1.2, 1.2 and 1.6 standard in fillet and grooves using GMAW, SMAW and GTAW processes.

2. Demonstrate knowledge of basic CNC operations and G Code.

3. Manufacture product from conceptualization to reality through research and development.

4. Use critical thinking and problem-solving skills to create more efficient systems of manufacturing.

5. Apply basic metallurgical concepts and basic materials science as they pertain to metals, creating better production results in manufacturing processes.

6. Demonstrate knowledge of necessary mathematical concepts as they apply to manufacturing.

SECTION #3 PROPOSED COURSEWORK

List all courses (course number, title, requisites and credits) in the term by term order that is to be displayed in the <u>catalog</u> certificate map. Enter electives below if applicable. The information you provide on this form will be reflected in the CGCC catalog pages. Please ensure it is correct. (If you need more lines to accommodate the courses, right click and insert rows.)

Course Number	Course Title	Requisites	Credits
Fall			
WLD 195	Welding Technology I	none	3
MTH 98	Quantitative Math	MTH 20, Placement in to RD 90 and WR 90	4
Winter			
MFG 150	Manufacturing Processes	WLD 195	3
MFG 155	Blueprint Reading	WLD 195	3
MFG 280	Aluminum GTAW/TIG Welding	WLD 195, Co-requisite MFG 150	3
MFG 285	Stainless Steel GTAW/TIG Welding	WLD 195, Co-requisite MFG 150	3

Spring			
MFG 151	Fabrication Processes 1	MFG 150	3
MFG 156	Integrated Manufacturing 1	MFG 155	3
MFG 281	Aluminum GTAW/TIG Fabrication Processes 1	MFG 280	3
MFG 286	Stainless Steel GTAW/TIG Fabrication 1	MFG 285	3
Summer			
MFG 152	Fabrication Processes 2	MFG 151	3
MFG 157	Integrated Manufacturing 2	MFG 156	3
MFG 282	Aluminum GTAW/TIG Fabrication Processes 2	MFG 281	3
MFG 287	Stainless Steel GTAW/TIG Fabrication 2	MFG 286	3
		Credit total	43
	ELECTIVES (if applicable)	
Course Number	Course Title	Requisites	Credits
	none		

SECTION #4 RELATED INSTRUCTION

Certificates 45 credits or more require related instruction. Fill out a Template for Related Instruction located on the Curriculum web page. All courses identified as fulfilling the embedded related instruction requirement must have been reviewed and recommended by the Curriculum Committee and the details outlined on the CCOG.

SECTION #5 DEPARTMENT REVIEW

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Submitter	Email	Date
Robert Wells-Clark	rclark@cgcc.edu	10/21/2020
Department Chair (enter name of department chair): Jim Pytel		
Department Dean (enter name of department dean): Mary Kramer		