Curriculum Committee
Meeting Minutes
3:30PM-5:00PM
January 15, 2013

Martha Joyce, Chair  Brandon Green  David Farrington  Bettie Wright
Gregg Smith  Mary Stinnett  Nancy Nowak  Deborah Meyer
Charles Young  Lisa Davis

Business to be reviewed by Curriculum Committee:

Approval of Curriculum Committee Minutes- None

New Courses:

• WQT 228- Wastewater Collection – Clay Baumgartner

New Programs:

• None

Program Revisions

• Retail Management Certificate- Martha Joyce
• Trucking and Transportation Logistics Certificate- Jesse Morrow
• Civil Engineering and Surveying Technician, AAS- Clay Baumgartner
• Automotive Associate Degree- John Blakely

Course Revisions:

• ENGR 201- Electrical Fundamentals I- Clay Baumgartner
• ENGR 202- Electrical Fundamentals II- Clay Baumgartner
• CIV 225- Municipal Engineering- Clay Baumgartner
• WQT 261- Water Distribution- Clay Baumgartner

Informational Items:

• Update on Webforms- Webforms Program amendment form
• Progress Report on Current Program Submissions:
  o Medical Office Assistant- AAS
  o Front Medical Office Assistant-1 Year Certificate
Document brought forward by: Clay Baumgartner

Supervisor’s name  Mark Williams  Date   01/12/2013

Course title: **Wastewater Collection**

Division CTE  Department: Computer Science and Engineering         Program Engineering

Course No **WQT 228** Title **Wastewater Collection**  Offered **Fall 2013**

Credits 3 Lec hrs/wk 3 Lec/Lab hrs/wk 0 Lab hrs/wk 0 Prac hrs/wk 0

Banner Pre-req. MTH 111 Instructor Pre-req.       Co-requisites MTH111  Length (wks) **11**

Proposed implementation date Term **Fall Year 2013**  Grading Option Load Factor **3.0**

**Catalog Course Description:** In-plant practicum to develop experience in water quality operations

VOCATIONAL TECHNICAL PROPOSALS ONLY   LOWER DIVISION COLLEGIATE PROPOSALS ONLY

☐ Approved by Advisory Committee (Minutes Attached):

☐ To be ☐ Yes ☐ No

Is this course on the "LDC Course List" of the State Department

If no, this course has been approved for transfer to: (college or university) (attached syllabus, course description, and outcomes)

☐ Occupational Preparatory (organized degree/cert program) ☐ Occupational Supplementary

**Support Course:** Indicate all programs for which this course will be required.

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>DEPARTMENT</th>
<th>DATE</th>
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</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>Computer Science and Engineering</td>
<td>Summer 2013</td>
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</table>

Overlap

COURSE DEVELOPED BY **Clay Baumgartner**   DATE: **01/11/2013**

**ATTACH the documents** 1. COURSE OUTLINE   2. COURSE JUSTIFICATION FORM
Course No: WQT 228
Course Credit: 3
Lecture Hrs/wk: 3
Lab Hrs/Wk: 0
Lecture/Lab Hrs/Wk: 0
Practicum Hrs/Wk: 0
Clock Hours: 33
Length of Course 11 weeks
Banner enforced Prerequisite: MTH 111
Instructor enforced Prerequisite: MTH 111
Co-Requisite: MTH 111
Load Factor: 3.0
Activity Code: 2.0
CIPS: 150201

Course Title: Wastewater Collection
Developed By: Clay Baumgartner
Development Date: January 2013
Revision Date: 

COURSE DESCRIPTION: Course introduces the basics of design, operation, and maintenance of wastewater systems. Course includes pipe sizing, pipe slopes and flow velocities, general system components, and installation, inspection, testing and repair techniques. Field trips may be made to existing facilities and work under construction.

COURSE OUTCOMES:

1. Knowledge of regulatory agencies responsible for oversight of wastewater
2. Understanding of concepts and principals of hydraulic computations for gravity systems.
3. Understand basic design considerations for wastewater systems
4. Understanding of community and agency design standards
5. Understand the responsibilities of collection system operator
6. Understand the need for collection system
7. Introduction to the basics of components and typical layouts for collection systems
8. Learn safety procedures for construction, inspection and testing of sanitary sewer collection pipelines, inspection of manholes, and underground construction and repair.
9. Review knowledge and skills operators need to identify actual collection system problems and select appropriate methods to solve them
10. Learn to solve arithmetic problems relating to the operation and maintenance of wastewater collection systems.

OUTLINE: [Topics taught by week 1-10.]

<table>
<thead>
<tr>
<th>Week One</th>
<th>Collection System Operator and Collection System Operation and Maintenance</th>
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<tbody>
<tr>
<td></td>
<td>Text: Operation and Maintenance of Wastewater Collection Systems</td>
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<tr>
<td></td>
<td>Read: Ch. 1, 2</td>
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<tr>
<td>Week Two</td>
<td>Hydraulics of Gravity Systems</td>
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<td>Week Three</td>
<td>Design Flows</td>
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<td>Week Four</td>
<td>Collection Systems</td>
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<td>Week Five</td>
<td>Hydraulic Modeling of Collection Systems</td>
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<td>Week Six</td>
<td>Safe Procedures</td>
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<td>Read: Ch. 4</td>
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<td>Week Seven</td>
<td>Inspecting and Testing Collection Systems</td>
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<td>Week Eight</td>
<td>Pipe Line Cleaning and Maintenance Methods</td>
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<td>Week Nine</td>
<td>Underground Repair</td>
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<td></td>
<td>Read: Ch. 7</td>
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<td>Week Ten</td>
<td>Review</td>
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Student need for course: This course is one of four (4) water quality courses in the water quality pathways certificate. This course will essentially replace WQT 225 Wastewater and Stormwater Collection; however the course is considered new and will focus on wastewater collection. The stormwater content will be covered in CIV 225 Municipal Engineering.

Course Information:

☐ AA  ☐ AS  ☒ AAS  ☐ Below 100 level  ☐ Elective  ☒ Certificate

☐ AAOT (Area of distribution):

☐ Arts & Letters  ☐ Science/Math/Computer Science  ☐ Social Sciences  ☐ Electives  ☐ Human Relations

☐ Approved Disciplines Studies Listings

Cost of this course:

☒ No additional instructional costs (staff, material, equipment, or facilities) are required.

Curriculum will utilize curriculum currently being used for WQT 225

☐ Additional instructional costs (staff, materials, equipment or facilities) are needed to offer this course.

Course impact on:

a. Student enrollment in other courses:

b. Current program:

Replacement course for: Course Number: Title:

______________________________ ______________________ ________
Disposition: Signature Date Recommendation

______________________________ ______________________
Director of Curriculum Support Vice President of Instruction
Revise  Division: CTE

Reactivate  Program: Retail Management Certificate

Delete  Effective for Catalog Year and Term: 2013, summer

Repackage existing courses for a new area of concentration within an existing program

**Description of Request:** We are adding options for students to choose between either CIS120 Introduction to Computer Information Systems (existing program) or BA231 Computers in Business (proposed new option); and between either SP111 Fundamentals of Public Speaking (existing program) and SDP112 Communicating Effectively in the Workplace (proposed new option). Outcomes in the existing and proposed new optional classes meet the approved outcomes of the statewide Western Association of Food Chains Retail Management Certificate consortium. These proposed changes were approved by the WAFC Consortium / Advisory Committee at its fall meeting in November.

**Other Program Impact:**

- Instructional costs (staff, materials, equipment, or facilities) are required.

  - Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s). Attach one year budget plus startup cost.

- Impact to other Divisions in terms of classes and staffing.

**Disposition:**

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UCC PROGRAM REVISION FORM – page 2 of 2

Program revision for: Retail Management Certificate

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<td>Business Mathematics I</td>
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<td>BA223</td>
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Total credits in program: 31-32
UCC PROGRAM REVISION FORM – page 1 of 2

Document brought forward by:

X Jesse A. Morrow    Date January 10, 2013
Supervisor Signature:

X Revise    Division: Career and Technical Education

[ ] Reactivate    Program: Trucking and Transportation Logistics Certificate

[ ] Delete    Effective for Catalog Year and Term: 2013-2014

[ ] Repackage existing courses for a new area of concentration within an existing program

Other Program Impact: Course name changes only as per PTDC Advisory Committee changes March 2010

[ ] Instructional costs (staff, materials, equipment, or facilities) are required.
NONE

[ ] Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s). Attach one year budget plus startup cost.

[ ] Impact to other Divisions in terms of classes and staffing
NONE

Disposition: Signature Date Recommendation

Director of Curriculum Support    Vice President of Instruction
Program revision for: Trucking and Transportation Logistics Certificate

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<td>TTL 121 Practical Applications in Transportation and Logistics</td>
<td>TTL 121 Practical Applications in Professional Truck Driving and Logistics</td>
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<td><strong>Credit</strong></td>
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<td>TTL 141 Transportation Customer Service Skills</td>
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<td>TTL 281 Transportation Cooperative Work Experience</td>
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<th><strong>Total credits in program</strong></th>
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UCC PROGRAM REVISION FORM – page 1 of 3

Document brought forward by: Clay Baumgartner

Date: February 9, 2012
Supervisor Signature:

☐ Revise Division: CTE
☐ Reactivate Program: Civil Engineering and Surveying Technician, AAS
☐ Delete Effective for Catalog Year and Term: 2013, Summer
☐ Repackage existing courses for a new area of concentration within an existing program

Description of Request:

The majority of the students in the Civil Engineering and Surveying Technician, AAS program historically received funding and career guidance through UT&E. The elimination of UT&E funding has had a dramatic effect on decreased student enrollment in the program. However, job placement of students last year was excellent, with 100 percent of the graduates last spring employed within 3 months of graduation (including temporary positions and positions outside Douglas County).

Without the support of UT&E, it is especially important that the curriculum of the Engineering Technology AAS program be structured to provide multiple career pathways. Last year, the curriculum was revised to add a Surveying Pathways and Water Quality Pathways certificate, and was “grouped” with core courses and electives to provide students with alternatives for different emphasis in study.

The engineering program is currently working with professional land surveyor organizations in Oregon, to revise OARs to allow UCC graduates to take the Fundamentals of Land Surveying (FLS) exam upon graduation from the AAS program. The FLS exam is one of two exams required to practice as a Professional Land Surveyor. Currently, UCC graduates either need to work for two years in the profession before taking the exam or travel to California to take the test (national exam). UCC graduates traveling to California have had a 100 percent passing rate during recent years.

The ability for 2-year AAS graduates to take the FLS and work towards licensing as a professional land surveyor (rather than first complete a BS degree in Geomatics/Surveying) is a major benefit to graduates of the UCC program. The benefit will increase if the UCC Engineering Program is successful in lobbying to revise the OARs to take the exam at graduation.
The proposed revisions are listed on the attached table, and include:

1. Align with OAR Requirements for AAS Graduates to Take the FLS. Total credit hours must be 96 credit hours or greater. The addition of WR227 and returning the capstone CIV 225 course are proposed so the AAS degree totals 96 credit hours. The OAR also requires 13 credit hours in social science, humanities, and communication. WR 227 is added to comply with this requirement.

2. The AAS degree previously included a course CIV 225 Municipal Engineering. This course was changed to WQT 225 Wastewater and Stormwater Collection. It is felt that students will be better served (and have higher probability of employment) with a return to the capstone CIV 225 course (this also increase credit hours to comply with OARs for FLS examination) and change the water quality course to WQT 228 Wastewater Collection. The course content on stormwater will be covered in CIV 225.

3. Elimination of the core and elective concept (for now). The electives were added to provide more educational pathways for students – particularly to allow students interested in future transfer to take MTH251 and MTH 252. However, the electives may have made advising more complicated. For the immediate future, the proposal is to reduce the number of electives and to recommend that students in future transfer also take MTH 251 and MTH 252. The concepts of options to the AAS will be evaluated further for possible inclusion in the 2014/15 catalog.

Other Program Impact:

☐ Instructional costs (staff, materials, equipment, or facilities) are required.

None

☒ Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s). Attach one year budget plus startup cost.

None. There will be an increase of 3 ILCs for core engineering courses, but will fall within ILC limits for staff. Staff time will be required to develop update curriculum. Current plan is to incorporate the curriculum development into the course instruction.

☐ Impact to other Divisions in terms of classes and staffing.

Added WR 227 as requirement. May increase student enrollment in this course.

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Program revision for: Civil Engineering and Surveying Technician, AAS

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<td>ENGR 211*</td>
<td>Statics</td>
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<td>CIV 215*</td>
<td>Contract Documents</td>
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<td>CIV 223*</td>
<td>Properties of Materials</td>
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<td>WQT 225*</td>
<td>Wastewater and Storm Collect</td>
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<td>CIV 280 or WQT 290</td>
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<td>CWE 161</td>
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<td>DRF 112</td>
<td>Computer Aid Drafting (CAD) I</td>
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<td>WQT 260*</td>
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<td>WQT 261*</td>
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</table>

* Were listed as electives in 2012/13 catalog

**Course Additions and Revisions**

Forms for proposed courses revisions and course additions are included as a separate attachment.
Document brought forward by: John E. Blakely

Date 01/08/2013
Supervisor Signature:

X Revise Division: CTE
☐ Reactivate Program: Automotive
☐ Delete Effective for Catalog Year and Term: 2013/2014/Fall

☐ Repackage existing courses for a new area of concentration within an existing program

Description of Request: Restructure of program to meet the requirements of Toyota and NATEF

Other Program Impact:

☐ Instructional costs (staff, materials, equipment, or facilities) are required.

☐ Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s). Attach one year budget plus startup cost.

☐ Impact to other Divisions in terms of classes and staffing.

Disposition: Signature Date Recommendation

Director of Curriculum Support Vice President of Instruction
Program revision for: Automotive Associate Degree

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Document brought forward by: Clay Baumgartner

X  Date 12/26/2012

Revise  Division: CTE
Reactivate  Department: Computer & Engineer
Delete  Program: Engineering

Current course number **ENGR 201**  Revised Course Number **ENGR 201**

Current Course Title  **Electrical Fundamentals I**  Revised Course Title  **Electrical Fundamentals I**

<table>
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Banner/Instr. Prerequisites  
Revised Banner/Instruc. Prerequisites

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<td>Co-requisites MTH 251</td>
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Proposed implementation date: Term **Fall** Year **2013** Grading Option A-F Load Factor 5.1

**Reason for request:** To make equivalent to OIT transfer course, to align curriculum with other community colleges and to provide adequate to cover course materials. Other examples of ENGR 201 course at community colleges: *PCC* – 4 hrs lecture and 3 hrs lab, 5 credit hrs; *Chemeketa* – 3 hrs lecture and 3 hrs lab, 4 credit hrs; *LBCC* – 3 hrs lecture and 3 hours lab, 4 credit hrs; *LCC* – 3 hrs lecture and 3 hrs lab, 4 credit hrs

Revision(s) requested: ATTACH NEW COURSE OUTLINE SHOWING REVISIONS

**Cost of revision:** $ 0

No additional instructional costs (staff, materials, equipment, or facilities) are required.

 Adds 1.7 ILC of instruction. The cost of this course will be covered by additional tuition and FTE reimbursement.
Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s).

UCC REVISED COURSE OUTLINE Page 2 of 3

Course No: ENGR 201
Course Credit: 4
Lecture Hrs/wk: 3
Lab Hrs/Wk: 0
Lecture/Lab Hrs/Wk: 2
Practicum Hrs/Wk: 0
Clock Hours: 33
Length of Course 11 weeks
Banner enforced Prerequisite: 
Instructor enforced Prerequisite:
Co-Requisite: MTH 251
Load Factor: 5.1
Activity Code: 210
CIPS: 150201

Course Title: Electrical Fundamentals I
Developed By: Clay Baumgartner
Development Date: 9/15/2007
Revision Date: 12/26/2012

COURSE DESCRIPTION: Introduces students to basic circuit elements and circuit analysis techniques. Covers Ohm's and Kirchhoff's Laws, network theorems, node voltage analysis and mesh current analysis. Operational amplifiers, inductors, capacitors, RC and RL transient response are also covered. Circuit simulation, math analysis software, and laboratory experiments are incorporated to solidify classroom theory and practice.

COURSE OUTCOMES: Students must demonstrate the ability to:

1. State and utilize the current-voltage relationships of resistors, capacitors, inductors, and independent and dependent current and voltage sources in solving dc circuits and calculating power and energy.

2. State and apply Ohm’s Law and Kirchhoff’s laws to both series and parallel circuits for resistive circuits. Applications include mesh and nodal analysis; the relationships between voltage and current, and power and energy; delta-wye transformations; voltage and current division.

3. State and apply Superposition, Thevenin’s theorem and Norton’s theorem to dc circuit analysis including: the use of both voltage and current dependent equivalent voltage sources; the use of both voltage and current dependent equivalent current sources.

4. Analyze circuits made up of ideal operational amplifiers and resistors.

5. State and apply the relationships between voltage and current to solve problems involving inductive and capacitive components. Analyze first-order circuits, which contain resistors, capacitors, or inductors.
6. Apply basic software tools, including MATLAB AND LTSPICE, to analyze dc circuits.

Demonstrate the ability to provide a solution that indicates understanding of the problem, its requirements, and its constraints. This is demonstrated by your ability to formulate the problem, plan and design the solution, and solution quality is efficient and correct.


OUTLINE: [Topics taught by week 1-10.]
| #3 | Basic Laws  
- Series Resistors  
- Voltage Division  
- Parallel Resistors  
- Current Division  
- Wye-Delta Transformations | Rd. Chp. 2  
(2.5 – 2.7) | Homework Set 3  
2.26, 2.34, 2.35, 2.38, 2.48b, 2.55, 2.58, 2.62, 2.69 | Lab #3 |
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<td>#4</td>
<td>Analysis</td>
<td>Rd. Chp. 3</td>
<td>Homework Set 4A 3.5, 3.7, 3.11, 3.14</td>
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<td>- Node Voltage</td>
<td>3.1 – 3.3</td>
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<td>- Mesh Current</td>
<td>3.4 – 3.5</td>
<td>Homework Set 4B 3.36, 3.37</td>
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<td>- LTSpice</td>
<td>3.8</td>
<td>Homework Set 4C 3.9, 3.36, 3.37</td>
<td>Include printouts of results and schematic for each</td>
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<td>#5</td>
<td>Review Midterm #1</td>
<td>Chp. 1- 3</td>
<td>Homework Set 5 4.5, 4.8, 4.20, 4.33, 4.47, 4.68, 4.78</td>
<td>Lab #5</td>
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<td>Circuit Theorems</td>
<td>Rd. Chp. 4 (4.1-4.9)</td>
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<td>- Linearity</td>
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<td>- Superposition</td>
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<td>- Source Transformation</td>
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<td>- Thevenin’s Theorem</td>
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<td>- Norton’s Theorem</td>
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<td>- Maximum Power Transformation</td>
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<td>- LTSpice – Using DC Sweep</td>
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<td>#6</td>
<td>Operational Amplifiers</td>
<td>Rd. Chp. 5 (5.1 – 5.8)</td>
<td><strong>Homework Set 6</strong>&lt;br&gt;Computations by Hand, Show Work 1) 5.8A, 2) 5.8B, 3) 5.9A, 4) 5.9B, 5) 5.10, 6) 5.30&lt;br&gt;<strong>LTSpice</strong> Include Copy of Schematic and Results (Cut and Paste to Word Document). Use the universal opamp 2. 7) 5.8A, 8) 5.8B, 9) 5.30</td>
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<td>Capacitors and Inductors</td>
<td>Rd. Chp. 6 All</td>
<td><strong>Homework Set 6</strong>&lt;br&gt;Computations by Hand, Show Work 2) 6.17A, 2) 6.24, 3) 6.32, 4 6.46, 5) 6.51, 6) 6.61</td>
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<td>#8</td>
<td>Midterm #2&lt;br&gt;Capacitors and Inductors</td>
<td>Chp. 4, 5&lt;br&gt;Rd. Chp. 6 ((6.1-6.5, 6.6.1-6.6.2))</td>
<td>Homework Set 8&lt;br&gt;6.13, 6.17c, 6.18, 6.30 (caps)&lt;br&gt;6.46, (caps &amp; inductors)&lt;br&gt;6.51, 6.58 (inductors)</td>
<td>Lab #8</td>
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<td>#9</td>
<td>First-Order Circuits&lt;br&gt;Thanksgiving</td>
<td>Rd. Chp. 7 (7.1-7.6)</td>
<td>Homework Set 9&lt;br&gt;7.6, 7.9 (source-free RC)&lt;br&gt;7.11 (source-free RL)&lt;br&gt;7.40a and b, 7.44 (RC step-response)&lt;br&gt;7.54a, 7.55 (RL step-response)</td>
<td>Lab #9</td>
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<td>#10</td>
<td>Midterm #3&lt;br&gt;Final Exam Review</td>
<td>Chp. 6, 7</td>
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<td>#11</td>
<td><strong>Final Exam</strong></td>
<td>Comprehensive&lt;br&gt;Chp. 1 - 7</td>
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Course Number  ENGR 201  Course Name  Electrical Fundamentals I

Student need for course:

Course Information:

☐ AA  ☑AS  ☐AAS  ☐ Below 100 level  ☐ Elective  ☐ Certificate

☐ AAOT (Area of distribution):

Cost of this course:

☒ No additional instructional costs (staff, material, equipment, or facilities) are required. The cost of this course will be covered by (i.e. fewer sections of ________ course):

☐ Additional instructional costs (staff, materials, equipment or facilities) are needed to offer this course. Itemize and estimate:

Course impact on:

a.  Student enrollment in other courses:

b.  Current program: 15

Replacement course for: Course Number: ENGR 201  Title: Electrical Fundamentals I

Disposition:  Signature  Date  Recommendation

Director of Curriculum Support  Vice President of Instruction
X Date 12/27/2012
Supervisor Signature (Please type in the box with the X by it.)

Revise Division: CTE
Reactivate Department: Computer & Engineer
Delete Program: Engineering

Current course number ENGR 202 Revised Course Number ENGR 202
Current Course Title Electrical Fundamentals II Revised Course Title Electrical Fundamentals II

Credits 3 Revised Credits 4
Lecture Hrs/Wk 2 Revised Lecture Hrs/Wk 3
Lec /Lab Hrs/Wk 2 Revised Lec /Lab Hrs/Wk 3
Lab Hrs/Wk 0 Revised Lab Hrs/Wk 0
Practicum 0 Revised Practicum 0

Banner/Instr. Prerequisites ENGR201 Revised Banner/Instruc. Prerequisites ENGR201
Co-requisites MTH 252 Revised Co-requisites MTH 252
Length (Wks) 11 Revised Length (Wks) 11
Terms Offered Winter Revised Terms Offered Winter

Proposed implementation date: Term Fall Year 2013 Grading Option A-F Load Factor 5.1

Reason for request: To better align curriculum with other community colleges and to provide adequate to cover course materials. Other examples of ENGR 202 at community colleges: PCC 4 hrs lecture and 3 hrs lab, 5 credit hrs; Chemeketa – 3 hrs lecture and 3 hrs lab, 4 credit hrs; LBCC – 3 hrs lecture and 3 hours lab, 4 credit hrs

Revision(s) requested: ATTACH NEW COURSE OUTLINE SHOWING REVISIONS

Cost of revision: $ 0

No additional instructional costs (staff, materials, equipment, or facilities) are required.

Adds 1.7 ILC of instruction. The cost of this course will be covered by additional tuition and FTE reimbursement.

Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s).
Course No: ENGR 202  
Course Credit: 4  
Lecture Hrs/wk: 3  
Lab Hrs/Wk: 0  
Lecture/Lab Hrs/Wk: 2  
Practicum Hrs/Wk: 0  
Clock Hours: 33  
Length of Course 11 weeks  
Banner enforced Prerequisite: ENGR201  
Instructor enforced Prerequisite:  
Co-Requisite: MTH 252  
Load Factor: 5.1  
Activity Code: 210  
CIPS: 150201  

Course Title: Electrical Fundamentals II  
Developed By: Clay Baumgartner  
Development Date: 9/15/2007  
Revision Date: 12/26/2012  

**COURSE DESCRIPTION:** Covers RLC circuits, transformers, AC power, and three phase power. Explores steady state sinusoidal analysis and phasor techniques. Introduces the Laplace Transform. Also incorporated is circuit simulation, math analysis software, and laboratory experiments to solidify classroom theory and practice.  

**COURSE OUTCOMES:** Students must demonstrate the ability to:  
1. Apply circuit analysis techniques to single-phase AC circuits using phasors to calculate real power, reactive power and apparent power.  
2. Apply circuit analysis techniques to three-phase circuits to calculate line- and phase-voltages and currents, and real, reactive and apparent power.  
3. Apply the principles of frequency dependence of inductive and capacitive components for the analysis of passive filters.  
4. Perform laboratory experiments utilizing the above concepts.  

Demonstrate the ability to provide a solution that indicates understanding of the problem, its requirements, and its constraints. This is demonstrated by your ability to formulate the problem, plan and design the solution, and solution quality is efficient and correct.  

OUTLINE: [Topics taught by week 1-10.]

Week One  Second Order Circuits (Natural & Forced Response)
  ▪ Read Chapter 8
  ▪ Lab #1  PSpice

Week Two  Second Order Circuits – con’t

Week Three Sinusoids and Phasors
  ▪ Read Chapter 9
  ▪ Lab #2  Oscilloscope

Week Four  Sinusoidal Steady State Analysis
  ▪ Read Chapter 10
  ▪ Lab #3 – Inductor & Capacitor characterization

Week Five  AC Power Analysis
  ▪ Read Chapter 11 (sections 11.1 → 11.4)
  ▪ Lab #3 – con’t

Week Six  Frequency Response
  ▪ Read Chapter 14 (sections 14.1 → 14.7)
  ▪ Lab #4 - Simple Filter Design

Week Seven Frequency Response (con’t)

Week Eight Three Phase Circuits
  ▪ Read Chapter 12 (sections 12.1 → 12.11)
  ▪ Lab #5 – Team Project Design

Week Nine  Three Phase Circuits (con’t)
  ▪ Lab #5 – con’t

Week Ten  Magnetically Coupled Circuits
  ▪ Read Chapters 13 (sections 13.1 → 13.10)
  ▪ Lab #5 Final Design Report Due Friday
    • Take home team finals issued

Week Eleven Final Presentations
Document brought forward by: Clay Baumgartner

Date 01/07/2013
Supervisor Signature: (Please type in the box with the X by it.)

Course Number ENGR 202  Course Name Electrical Fundamentals II

Student need for course:

Course Information:

☐ AA  ☑ AS  ☐ AAS  ☐ Below 100 level  ☐ Elective  ☐ Certificate

☐ AAOT (Area of distribution):

Cost of this course:

☑ No additional instructional costs (staff, material, equipment, or facilities) are required. The cost of this course will be covered by (i.e. fewer sections of ________ course): 

☐ Additional instructional costs (staff, materials, equipment or facilities) are needed to offer this course. Itemize and estimate:

Course impact on:

a. Student enrollment in other courses:

b. Current program: 15

Replacement course for: Course Number: ENGR 202  Title: Electrical Fundamentals II

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Director of Curriculum Support  Vice President of Instruction
X Date 2/8/2012

Supervisor Signature (Please type in the box with the X by it.)

☐ Revise Division: CTE
☐ Reactivate Department: Computer & Engineer
☐ Delete Program: Engineering

Current course number CIV 225 Revised Course Number WQT 225

Current Course Title Municipal Engineering Revised Course Title Wastewater and Stormwater Collection

Credits 3 Revised Credits 3

Lecture Hrs/Wk 3 Revised Lecture Hrs/Wk 3

Lec /Lab Hrs/Wk 0 Revised Lec /Lab Hrs/Wk 0

Lab Hrs/Wk 0 Revised Lab Hrs/Wk 0

Practicum 0 Revised Practicum 0

Banner/Instr. Prerequisites Revised Banner/Instruc. Prerequisites MTH 95

Co-requisites Revised Co-requisites MTH 111

Length (Wks) 11 Revised Length (Wks) 11

Terms Offered Spring Revised Terms Offered Spring

Proposed implementation date: Term Fall Year 2012 Grading Option A-F Load Factor 3.0

Reason for request: No change in credit hours. Revise prefix to reflect a water quality pathway and update course outcomes

Revision(s) requested: ATTACH NEW COURSE OUTLINE SHOWING REVISIONS

Cost of revision: $ 0

☐ No additional instructional costs (staff, materials, equipment, or facilities) are required.

The cost of this course will be covered by (i.e. fewer sections of course):

☐ Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s).
Course No: WQT 225  
Course Credit: 3  
Lecture Hrs/wk: 3  
Lab Hrs/Wk: 0  
Lecture/Lab Hrs/Wk: 0  
Practicum Hrs/Wk: 0  
Clock Hours: 33  
Length of Course: 11 weeks  
Banner enforced Prerequisite: MTH 111  
Instructor enforced Prerequisite:  
Co-Requisite: MTH 111  
Load Factor: 3.0  
Activity Code: 210  
CIPS: 150201

Course Title: Wastewater and Stormwater Collection  
Developed By: Clay Baumgartner (revision)  
Development Date: 2009  
Revision Date: February 2012

**COURSE DESCRIPTION:** Course introduces the basics of design, operation, and maintenance of wastewater and storm water collection systems. The course will help students prepare for the Level I Wastewater Collection exam. Course includes pipe sizing, pipe slopes and flow velocities, general system components, and installation, inspection, testing and repair techniques. Elementary street construction and drainage design are also studied in conjunction with storm drainage. Field trips may be made to existing facilities and work under construction.

**COURSE OUTCOMES:**
- Knowledge of regulatory agencies responsible for oversight of wastewater and storm water
- Understanding of concepts and principals of hydraulic computations for gravity systems.
- Understand basic design considerations for wastewater and storm water systems
- Understanding of community and agency design standards
- Understand the responsibilities of collection system operator
- Understand the need for collection system
- Introduction to the basics of components and typical layouts for collection systems
- Learn safety procedures for construction, inspection and testing of sanitary sewer and storm collection pipelines, inspection of manholes, and underground construction and repair.
- Review knowledge and skills operators need to identify actual collection system problems and select appropriate methods to solve them
- Learn to solve arithmetic problems relating to the operation and maintenance of wastewater and stormwater collection systems.
**REQUIRED TEXT/MATERIALS:**
“Computer Applications in Hydraulic Engineering”, Haestad Methods
“Operation and Maintenance of Wastewater and Collection Systems, Volume I, 6th Edition”, Office of Water Programs, California State University

**OUTLINE:** [Topics taught by week 1-10.]

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<th>Week One</th>
<th>Collection System Operator and Collection System Operation and Maintenance</th>
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<td>Text: Operation and Maintenance of Wastewater Collection Systems</td>
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<td>Read: Ch. 1, 2</td>
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<td>Week Two</td>
<td>Hydraulics of Gravity Systems</td>
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<td>Week Three</td>
<td>Design Flows</td>
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<td>Collection Systems</td>
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<td>Text: Operation and Maintenance of Wastewater Collection Systems</td>
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<td>Read: Ch. 3</td>
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<td>Week Five</td>
<td>Hydraulic Modeling of Collection Systems</td>
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<td>Week Six</td>
<td>Safe Procedures</td>
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<td>Read: Ch. 4</td>
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<td>Week Seven</td>
<td>Inspecting and Testing Collection Systems</td>
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<td>Text: Operation and Maintenance of Wastewater Collection Systems</td>
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<td>Read: Ch. 5</td>
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<td>Week Eight</td>
<td>Pipe Line Cleaning and Maintenance Methods</td>
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<td>Text: Operation and Maintenance of Wastewater Collection Systems</td>
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<td>Read: Ch. 6</td>
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<td>Week Nine</td>
<td>Underground Repair</td>
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<td>Text: Operation and Maintenance of Wastewater Collection Systems</td>
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<td>Read: Ch. 7</td>
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<td>Week Ten</td>
<td>Review</td>
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<td>Week Eleven</td>
<td>Final</td>
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Document brought forward by: Clay Baumgartner

X Date 02/07/2012
Supervisor Signature: (Please type in the box with the X by it.)

Course Number WQT 225 Course Name Wastewater and Stormwater Collection

Student need for course:

Course Information:

☐ AA ☐ AS ☑ AAS ☐ Below 100 level ☐ Elective ☑ Certificate

☐ AAOT (Area of distribution):

Cost of this course:

☒ No additional instructional costs (staff, material, equipment, or facilities) are required. The cost of this course will be covered by (i.e. fewer sections of _______ course):

☐ Additional instructional costs (staff, materials, equipment or facilities) are needed to offer this course. Itemize and estimate:

Course impact on:

a. Student enrollment in other courses:

b. Current program: 15

Replacement course for: Course Number: CIV 225 Title: Municipal Engineering

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Director of Curriculum Support Vice President of Instruction
Document brought forward by: Clay Baumgartner

X Date 1/12/2013
Supervisor Signature (Please type in the box with the X by it.)
☒ Revise Division: CTE
☐ Reactivate Department: Computer & Engineer
☐ Delete Program: Engineering

Current course number WQT 261 Revised Course Number WQT 261

Current Course Title Water Distribution Revised Course Title Water Distribution

Credits 4 Revised Credits 3
Lecture Hrs/Wk 4 Revised Lecture Hrs/Wk 3
Lec /Lab Hrs/Wk 0 Revised Lec /Lab Hrs/Wk 0
Lab Hrs/Wk 0 Revised Lab Hrs/Wk 0
Practicum 0 Revised Practicum 0

Banner/Instr. Prerequisites ______ Revised Banner/Instruc. Prerequisites MTH 95
Co-requisites ______ Revised Co-requisites MTH 111

Length (Wks) 11 Revised Length (Wks) 11

Terms Offered Winter Revised Terms Offered Winter

Proposed implementation date: Term Fall Year 2013 Grading Option A-F Load Factor 3.0

Reason for request: No change in credit hours. Revise prefix to reflect a water quality pathway and update course outcomes

Revision(s) requested: ATTACH NEW COURSE OUTLINE SHOWING REVISIONS

Cost of revision: $ 0

☒ No additional instructional costs (staff, materials, equipment, or facilities) are required.

The cost of this course will be covered by (i.e. fewer sections of course):

☐ Additional instructional costs (staff, materials, equipment, or facilities) are needed to offer this course. Itemize and estimate cost(s).
**Course No:** WQT 261  
**Course Credit:** 3  
**Lecture Hrs/wk:** 3  
**Lab Hrs/Wk:** 0  
**Lecture/Lab Hrs/Wk:** 0  
**Practicum Hrs/Wk:** 0  
**Clock Hours:** 33  
**Length of Course:** 11 weeks  
**Banner enforced Prerequisite:** MTH 111  
**Instructor enforced Prerequisite:**  
**Co-Requisite:** MTH 111  
**Load Factor:** 3.0  
**Activity Code:** 210  
**CIPS:** 150201

_Course Title:_ Water Distribution  
_Developed By:_ Clay Baumgartner  
_Development Date:_ January 2012  
_Revision Date:_ January 2013

**COURSE DESCRIPTION:** This course covers applied fluid mechanics for pressure systems and operation and maintenance of water distribution systems. The fundamental properties of fluids, hydrostatic pressure, fluid flow and energy distribution are covered for closed systems. The solution of practical, applied problems is emphasized. Operators and engineering technicians learn to analyze and solve problems when they occur and perform mathematical calculations commonly associated with operating a distribution system.

**COURSE OUTCOMES:**

1. Define the relationship between absolute, gauge and atmospheric pressure.  
2. Compute the forces on submerged surfaces.  
3. Apply the principals of energy conservation to fluid flow; including pressure, elevation, and velocity head.  
4. Analyze the flow of fluids in closed systems, including flow rate, velocities, pressure, and energy loss (friction and energy loss).  
5. Compute energy losses in distribution system using Darcy-Weisbach or Hazen-Williams formulas.  
6. Review standard pipe materials, pipe diameters, and specifications for distribution piping  
7. Compute TDH for a pump system, understand fundamentals of pumps, pump curves, and pump selections  
8. Introduction to basic hydraulic modeling of piping system  
9. Learn the components of a water distribution system, including transmission, water storage, distribution, service lines, water meters  
10. Learn basics of distribution system operation and maintenance, including storage, distribution, water quality considerations, disinfection, safety, and administration.  
11. Become comfortable with various units used in fluid mechanics and conversion of units.
REQUIRED TEXT/MATERIALS:
“Water Distribution System Operation and Maintenance, A Field Study Training Program, Fifth Edition”, Office of Water Programs, College of Engineering and Computer Engineering, California State University

OUTLINE: [Topics taught by week 1-10.]

Week One  Text: Water Distribution System, Operation and Maintenance
Read Chapter 1. Water Distribution System Operation
Chapter Assessment, See Angel

Week Two  Text: Water Distribution System, Operation and Maintenance
Read Chapter 2. Storage Facilities
Chapter Assessment, See Angel

Week Three  Text: Water Distribution System, Operation and Maintenance
Read Chapter 3. Distribution Facilities
Chapter Assessment, See Angel

Week Four  Text: Water Distribution System, Operation and Maintenance
Read Chapter 3. Distribution Facilities (Continued)
Chapter Assessment, See Angel

Week Five  Text: Water Distribution System, Operation and Maintenance
Read Chapter 4. Water Quality Considerations in Distribution System
Chapter Assessment, See Angel

Week Six  Text: Water Distribution System, Operation and Maintenance
Read Chapter 5. Distribution System, Operation and Maintenance
Chapter Assessment, See Angel

Week Seven  Text: Water Distribution System, Operation and Maintenance
Read Chapter 6. Disinfection
Chapter Assessment, See Angel

Week Eight  Text: Water Distribution System, Operation and Maintenance
Read Chapter 7. Safety
Chapter Assessment, See Angel

Week Nine  Text: Water Distribution System, Operation and Maintenance
Read Chapter 8. Distribution System Administration
Chapter Assessment, See Angel

Week Ten  Review Week

Week Eleven  Final
UCC REVISED COURSE JUSTIFICATION – Page 3 of 3

Document brought forward by: Clay Baumgartner

X Date 01/11/2013
Supervisor Signature: (Please type in the box with the X by it.)

Course Number WQT 261 Course Name Water Distribution

Student need for course:

Course Information:

☐ AA ☐ AS ☑ AAS ☐ Below 100 level ☐ Elective ☑ Certificate

☐ AAOT (Area of distribution):

Cost of this course:

☑ No additional instructional costs (staff, material, equipment, or facilities) are required. The cost of this course will be covered by (i.e. fewer sections of ________ course):

☐ Additional instructional costs (staff, materials, equipment or facilities) are needed to offer this course. Itemize and estimate:

Course impact on:

a. Student enrollment in other courses:

b. Current program: 15

Replacement course for: Course Number: WQT 261 Title: Water Distribution

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Director of Curriculum Support Vice President of Instruction