Length: 1	
basics includin	ng the Order of
s (unit conversion	ons), tank
time, velocities	s in pipes and
ttendees work	a variety of
C: 0.2	D: 0.2
Longth, 1	120 min
Length: 1	
nit conversions	
ne calculations,	, mixing energy,
C: 0.2	D: 0.2
Length: 1	120 min
s math basics in	
al analysis (unit	
ntion time, velo	
ig. Attendees w	vork a variety of
0.00	I D. O.O.
C: 0.2	D: 0.2
Length: 1	120 min
pasics including	
	ons), equivalent
s, and perimete	
•	•
p horsepower, structor.	and chemical
C: 0.2	D: 0.2
0.0.2	D. 0.2
Length: 1	120 min
up a notch and	introduces
sic mass balance	
	percent volatile
vards to enforce	
CRT is worked ba	•
	ackwards to
	ackwards to
	d b

Title: Intermediate Math for \	Water Operators			Length: 120	min
Description: This water operator	-	se steps things	s up a notch	Ü	
problems and introducing addition					
rates, fluoride saturator calculati	•		•		
	,		-	•	
worked forward to reinforce con					
course, more difficult problems a		as to fina pum	ping rates, i	n-stream chei	micai
concentrations from feed rate, a		T	T	T	T
Instructor: Sidney	TU's W: 0.2	WW: 0.2	I: 0.2	C: 0.2	D: 0.2
Title: Intermediate Math for I	Distribution Opera	itors		Length: 120	min
Description: This distribution ope			things up a	Ü	
advanced math problems and in					ing more
unconventional storage tank geo	• ,	acii as riyaraa	ilos, system	pi coodi co,	
Instructor: Sidney	TU's W: 0.2	WW: 0.2	I: 0.2	C: 0.2	D: 0.2
ilistructor. Siuriey	103 W. U.Z	VV VV. U.Z	1. U.Z	C. U.Z	D. 0.2
Title: Intermediate Math for (Collection System	Operators		Length: 120	min
Description: This collections open		•	a notch by a		
problems and introducing pump				•	
			•		
a pump, calculating pipe slope, fi					
optimizing pump cycle times for	,	,		·	1
Instructor: Sidney	TU's W: 0.2	WW: 0.2	I: 0.2	C: 0.2	D: 0.2
Title: Advanced Math Topics	for Wastewater O	perators		Length: 120	min
Title: Advanced Math Topics			ed math pro	Length: 120	
Description: The advanced waste	ewater course covers	s more advanc		blems includi	ing dilutions,
Description: The advanced waste activated sludge (F:M, MCRT, spa	ewater course covers ace loading, SOR), so	s more advanc blids handling (percent VSS	bblems includi reduction, la	ing dilutions, nd
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities	ewater course cover ace loading, SOR), so in partially full pipe:	s more advanc blids handling (s given flow rat	percent VSS te and slope	bblems includi reduction, la . The advance	ing dilutions, nd ed math
Description: The advanced waste activated sludge (F:M, MCRT, spanned application rates), and velocities topics course is tailored for each	ewater course covers ace loading, SOR), so in partially full pipes group of students to	s more advanc olids handling (s given flow rat o accentuate to	percent VSS te and slope opics of inte	oblems includi reduction, la e. The advance rest. The big	ing dilutions, nd ed math difference
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar	ewater course coversace loading, SOR), so in partially full pipe group of students to	s more advance of the second s	percent VSS te and slope opics of inte omplexity o	bblems includi reduction, la the advance rest. The big f problems ta	ing dilutions, nd ed math difference
Description: The advanced waste activated sludge (F:M, MCRT, span application rates), and velocities topics course is tailored for each between the advanced course are the need for more advanced algorithms.	ewater course cover ace loading, SOR), so in partially full pipe: group of students to nd the intermediate ebra to isolate any v	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa	oblems including	ing dilutions, nd ed math difference ckled and
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar	ewater course coversace loading, SOR), so in partially full pipe group of students to	s more advance of the second s	percent VSS te and slope opics of inte omplexity o	bblems includi reduction, la the advance rest. The big f problems ta	ing dilutions, nd ed math difference
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced alge Instructor: Sidney	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any va TU's W: 0.2	s more advance olids handling (s given flow rate to accentuate to course is the co ariable in a par WW: 0.2	percent VSS te and slope opics of inte omplexity o ticular equa	bblems includi reduction, la e. The advance rest. The big f problems ta ation. C: 0.2	ing dilutions, nd ed math difference ckled and D: 0.2
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course are the need for more advanced algoristructor: Sidney Title: Advanced Math Topics	ewater course coversace loading, SOR), so in partially full pipes group of students to the intermediate ebra to isolate any value TU's W: 0.2	s more advance of some solids handling (some solids handling (some solids handling (some solids handling handli	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2	bblems includi reduction, la e. The advance rest. The big f problems ta tion. C: 0.2	ing dilutions, nd ed math difference ckled and D: 0.2
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced alge Instructor: Sidney	ewater course coversace loading, SOR), so in partially full pipes group of students to the intermediate ebra to isolate any value TU's W: 0.2	s more advance of some solids handling (some solids handling (some solids handling (some solids handling handli	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2	bblems includi reduction, la e. The advance rest. The big f problems ta tion. C: 0.2	ing dilutions, nd ed math difference ckled and D: 0.2
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course are the need for more advanced algoristructor: Sidney Title: Advanced Math Topics	ewater course coversace loading, SOR), so in partially full pipes group of students to defend the intermediate ebra to isolate any violate any violate with the intermediate ebra to isolate any violate any viola	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa 1: 0.2	bblems includi reduction, la rest. The big f problems ta ation. C: 0.2 Length: 120 bblems and fo	ing dilutions, nd ed math difference ckled and D: 0.2
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced algoristructor: Sidney Title: Advanced Math Topics of Description: The advanced water	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any vi TU's W: 0.2 for Water Operator math course covers d algebra to rearrange	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2 ed math pro ofind any va	bblems including reduction, law the advance rest. The big for problems taken including the control of the contr	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course are the need for more advanced algoristructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any vi TU's W: 0.2 for Water Operator math course covers d algebra to rearrange	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2 ed math pro ofind any va	bblems including reduction, law the advance rest. The big for problems taken including the control of the contr	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced alge Instructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more.	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any vi TU's W: 0.2 for Water Operator math course covers d algebra to rearrange	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2 ed math pro ofind any va	bblems including reduction, law the advance rest. The big for problems taken including the control of the contr	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course are the need for more advanced algoristructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full	ewater course coversace loading, SOR), so in partially full piper group of students to defend the intermediate ebra to isolate any violate any violate. W: 0.2 for Water Operator math course covers dialgebra to rearrand scale operation, dil	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa 1: 0.2 ed math pro ofind any value g water fro	bblems includi reduction, la rest. The big f problems ta ation. C: 0.2 Length: 120 bblems and for ariable. Scalin m multiple so	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of urces, and
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced alge Instructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more.	ewater course coversace loading, SOR), so in partially full piper group of students to defend the intermediate ebra to isolate any violate any violate. W: 0.2 for Water Operator math course covers dialgebra to rearrang scale operation, dilater to the course covers of the covers of	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa 1: 0.2 ed math pro ofind any value g water fro	bblems includi reduction, la rest. The big f problems ta ation. C: 0.2 Length: 120 bblems and for ariable. Scalin m multiple so	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of urces, and D: 0.2
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced algoristructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more. Instructor: Sidney	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any vi TU's W: 0.2 for Water Operator math course covers d algebra to rearrand scale operation, dil TU's W: 0.2	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa 1: 0.2 ed math pro ofind any va g water fro	bblems including reduction, law the advance rest. The big for problems taken including the control of the contr	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ag up of urces, and D: 0.2 min
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced algorithmstructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more. Instructor: Sidney Title: Fundamental Concepts Description: The Fundamental Concepts	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any vi TU's W: 0.2 for Water Operator math course covers d algebra to rearrang scale operation, dil TU's W: 0.2 in Math encepts in Math course	s more advance of the property	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2 ed math pro ofind any va g water fro I: 0.2	bblems including reduction, law the advance rest. The big of problems taken including the control of the contro	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of urces, and D: 0.2
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced alge Instructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more. Instructor: Sidney Title: Fundamental Concepts	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any va TU's W: 0.2 for Water Operator math course covers d algebra to rearrang scale operation, dil TU's W: 0.2 in Math encepts in Math couerties of addition, su	s more advance of the property	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2 ed math pro ofind any va g water fro I: 0.2	bblems including reduction, law and advanced rest. The big for problems taken tion. C: 0.2 Length: 120 C: 0.2 C: 0.2 Length: 60 m C: 0.2 Length: 60 m C: 0.1 Length: 60 m Leng	ing dilutions, and bed math difference ckled and bed math difference ckled and ckled ckled and ckled ckl
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced algoristructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more. Instructor: Sidney Title: Fundamental Concepts Description: The Fundamental Copercents, the number line, proper	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any va TU's W: 0.2 for Water Operator math course covers d algebra to rearrang scale operation, dil TU's W: 0.2 in Math encepts in Math couerties of addition, su	s more advance of the property	percent VSS te and slope opics of inte omplexity o ticular equa I: 0.2 ed math pro ofind any va g water fro I: 0.2	bblems including reduction, law and advanced rest. The big for problems taken tion. C: 0.2 Length: 120 C: 0.2 C: 0.2 Length: 60 m C: 0.2 Length: 60 m C: 0.1 Length: 60 m Leng	ing dilutions, and bed math difference ckled and bed min ces and bed bed bed bed bed bed bed bed bed be
Description: The advanced waste activated sludge (F:M, MCRT, spa application rates), and velocities topics course is tailored for each between the advanced course ar the need for more advanced alge Instructor: Sidney Title: Advanced Math Topics of Description: The advanced water students to apply more advanced bench scale testing results to full more. Instructor: Sidney Title: Fundamental Concepts Description: The Fundamental Copercents, the number line, proper distributive property, and more.	ewater course covers ace loading, SOR), so in partially full pipes group of students to d the intermediate ebra to isolate any vi TU's W: 0.2 for Water Operator math course covers d algebra to rearrand scale operation, dil TU's W: 0.2 in Math encepts in Math course of addition, su It is meant for atter	s more advance of the second s	percent VSS te and slope opics of inte omplexity o ticular equa 1: 0.2 ed math pro ofind any va ig water fro 1: 0.2 to basics to tiplication, a iggle with b	bblems including reduction, law and a concepts. The big for problems taken to a concept. Length: 120 bblems and for a concept. C: 0.2 Length: 50 nexplain fraction and division, that a concepts.	ing dilutions, nd ed math difference ckled and D: 0.2 min rces ng up of urces, and D: 0.2

Title: Percents , Percent	Removal, and Efficie	ncy		Length: 30	min
Description: Each of these	30 minute math modul	es focusses spec	ifically on t	he type of pro	blem in the
title. Instructor: Sidney	TU's W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
instructor. Startey	103 W. 0.03	VV VV. 0.03	1. 0.03	0.0.03	D. 0.03
Title: Unit Conversions				Length: 30	min
Description: Each of these	30 minute math modul	es focusses spec	ifically on t	•	
title.	oo minate matii modal	c3 100 0 3303 3pc0	incarry on the	ne type of pro	Dicini in the
Instructor: Sidney	TU's W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
	1 10 0 1 111 110	1	1	1 2: 2:22	1 - 1 - 1 - 1
Title: Geometry 1	Length: 30	min			
Description: Each of these	30 minute math modul	es focusses spec	ifically on t		
title.				, p	
Instructor: Sidney	TU's W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
		•	U.	- 1	- 1
Title: Geometry 2				Length: 30	min
Description: Each of these	30 minute math modul	es focusses spec	ifically on t	he type of pro	blem in the
title.					
Instructor: Sidney	TU's W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
Title: Hydraulic Detention	on Time			Length: 30	min
Description: Each of these	30 minute math modul	es focusses spec	ifically on t	he type of pro	blem in the
title.					
Instructor: Sidney	TU's W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
Title: Velocity in Pipes a				Length: 30	
Description: Each of these	30 minute math modul	es focusses spec	ifically on t	he type of pro	blem in the
title.					
Instructor: Sidney	TU's W: 0.05	WW: 0.05	I: 0.05		
			1. 0.05	C: 0.05	D: 0.05
		1	1. 0.03		l
Title: Finding Slopes and			1	Length: 30	min
Description: Each of these		es focusses spec	1	Length: 30	min
Description: Each of these title.	30 minute math modul	-	ifically on t	Length: 30 he type of pro	min blem in the
Description: Each of these		es focusses spec	1	Length: 30	min
Description: Each of these title. Instructor: Sidney	30 minute math modul	WW: 0.05	ifically on t	Length: 30 he type of pro	min blem in the D: 0.05
Description: Each of these title. Instructor: Sidney Title: Wells specific yie	30 minute math module TU's W: 0.05 eld, drawdown, zone	WW: 0.05	ifically on t	Length: 30 he type of pro C: 0.05 Length: 30	min blem in the D: 0.05
Description: Each of these title. Instructor: Sidney Title: Wells specific yie Description: Each of these	30 minute math module TU's W: 0.05 eld, drawdown, zone	WW: 0.05	ifically on t	Length: 30 he type of pro C: 0.05 Length: 30	min blem in the D: 0.05
Description: Each of these title. Instructor: Sidney Title: Wells specific yie Description: Each of these title.	30 minute math module TU's W: 0.05 eld, drawdown, zone 30 minute math module	of influence es focusses spec	ifically on the life of the li	Length: 30 he type of pro C: 0.05 Length: 30 he type of pro	min blem in the D: 0.05 min blem in the
Description: Each of these title. Instructor: Sidney Title: Wells specific yie Description: Each of these title.	30 minute math module TU's W: 0.05 eld, drawdown, zone	WW: 0.05	ifically on t	Length: 30 he type of pro C: 0.05 Length: 30	min blem in the D: 0.05
Description: Each of these title. Instructor: Sidney Title: Wells specific yie Description: Each of these title. Instructor: Sidney	30 minute math module TU's W: 0.05 eld, drawdown, zone 30 minute math module TU's W: 0.05	of influence es focusses spec WW: 0.05	ifically on the life of the li	Length: 30 he type of pro C: 0.05 Length: 30 he type of pro C: 0.05	min blem in the D: 0.05 min blem in the D: 0.05
Description: Each of these title. Instructor: Sidney Title: Wells specific yie Description: Each of these title. Instructor: Sidney Title: Force pressure in	30 minute math module TU's W: 0.05 eld, drawdown, zone 30 minute math module TU's W: 0.05	of influence es focusses spec WW: 0.05	ifically on the life of the li	Length: 30 he type of pro C: 0.05 Length: 30 he type of pro C: 0.05 Length: 30	min blem in the D: 0.05 min blem in the D: 0.05 min
Description: Each of these title. Instructor: Sidney Title: Wells specific yie Description: Each of these title. Instructor: Sidney	30 minute math module TU's W: 0.05 eld, drawdown, zone 30 minute math module TU's W: 0.05	of influence es focusses spec WW: 0.05	ifically on the life of the li	Length: 30 he type of pro C: 0.05 Length: 30 he type of pro C: 0.05 Length: 30	min blem in the D: 0.05 min blem in the D: 0.05 min

Title: Pumps horsepower,	cost to	operate, he	ead loss, cycle	e times	Length: 30 r	min
Description: Each of these 30 m	ninute m	ath modules	focusses spec	ifically on th	e type of prob	olem in the
title.						
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
Title: Chemical Dosing					Length: 30 r	min
Description: Each of these 30 m	ninute m	ath modules	focusses spec	ifically on th	e type of prob	olem in the
title.			·	•		
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
	•	•	•	•		•
Title: Filters backwash rat	e, hydr a	aulic loadin	g rate, bed ex	pansion	Length: 30 r	min
Description: Each of these 30 m				•	e type of prob	olem in the
title.			'	,	31 1	
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
J		1	1		1	1
Title: Calculating dilutions for	or chem	ical additio	n		Length: 30 r	nin
Description: Each of these 30 m				ifically on th		
title.						
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
Title: Organic Loading Rate					Length: 30 r	min
Description: Each of these 30 m	ninute m	ath modules	focusses spec	ifically on th	•	
title.		attitiodatos	100400000	moung on an	o typo or pro-	
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
	I					
Title: Sludge Volume Index					Length: 30 r	min
Description: Each of these 30 m	ninute m	ath modules	focusses spec	ifically on th		
title.		attitiodatos	100400000	moung on an	o typo or pro-	3101111111110
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	1: 0.05	C: 0.05	D: 0.05
mon dotor ordinoy	1.00	111 0.00	1111111111111	11 0.00	0.0.00	2.0.00
Title: Mean Cell Residence T	ime and	d Solids Res	idence Time		Length: 30 r	min
Description: Each of these 30 m				ifically on th		
title.	iii id to iii	attititiodalos	100 0 3303 3 p 00	incany on th	e type of pro	
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
mon dotor: ordinoy	103	*** 0.00	*****	1. 0.00	0. 0.00	D. 0.00
Title: Food to Microorganisr	n Ratio				Length: 30 r	min
Description: Each of these 30 m		ath modules	focusses spec	ifically on th	J	
title.	iiiiute iii	attritiodales	Tocusses spec	incarry on th	c type of prot	
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
man dotor. Jidney	103	VV. U.UU	V VV. U.UJ	1. 0.00	0.0.00	D. 0.00
Title: Math for Secondary Cl	arifiare	SOD Wo	ir Loading Da	to Colide	Length: 30 r	min
Flux	armers	SOR, We	ii Luauiiiy ka	te, solius	Lengin. 30 i	11111
Description: Each of these 30 m	ninuto m	ath modulos	focussos spos	ifically on th	o type of prob	olom in the
title.	iii lute III	atti modules	Tocusses spec	incany on th	e type of brot	אוט ווו וווט
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
mstructor, siuney	10.2	VV. U.US	VV VV. U.US	1. 0.00	C. U.U3	D. 0.03

Title: Percent Volatile S	olids Reduct	ion in Dige	esters		Length: 30	min
Description: Each of these				ifically on th		
title.	oo minato m	attititiodalo	3100 4 3303 3 p 00	mouny on a	io typo oi pio	
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
J		l	1		I	
Title: Sludge Dewaterin	g Calculation	15			Length: 30	min
Description: Each of these			s focusses spec	ifically on th	ne type of pro	blem in the
title.			•	,		
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
Title: Fleetwieel Create was	Calaulatian				Longth, 20	min
Title: Electrical Systems			- f	!£!aallaa.kk	Length: 30	
Description: Each of these title.	30 minute m	ath module	s rocusses spec	ifically on tr	ne type of pro	biem in the
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
Title: Laboratory Math -					Length: 30	
Description: Each of these	30 minute m	ath module	s focusses spec	ifically on th	ne type of pro	blem in the
title.		1		1	T -	1
Instructor: Sidney	TU's	W: 0.05	WW: 0.05	I: 0.05	C: 0.05	D: 0.05
TIII 0 . IS ID					T 00	•
Title: Centrifugal Pumps		"		1	Length: 90	
Description: This course in						
of each component, the in cavitation, the pump affini	•		•	is on pump	output, cause	52 OI
Instructor: Sidney	TU's	W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15
instructor. Sidney	103	VV. U. 13	VV VV. O. 13	1. 0.13	0.0.13	D. 0.13
Title: Pumps for Water	and Wastew	ater			Length: 90	min
Description: This course di			ds of numns use	ed in water	Length: 90 min	
including centrifugal, posit						
mechanism of action are d						
	d total dynam	nic nead. Th	is presentation	13 Supplem		
the pump affinity laws, and	•		•		e linked to th	rough
the pump affinity laws, and wonderful pump animatio	•		•		e linked to th	rough
the pump affinity laws, and wonderful pump animatio youtube.	•		•		e linked to th C: 0.15	D: 0.15
the pump affinity laws, and wonderful pump animatio youtube.	ns provided b	y various p	ump manufactu	ırers that ar	C: 0.15	D: 0.15
the pump affinity laws, and wonderful pump animatio youtube. Instructor: Sidney Title: Pumps for Water I	ns provided by TU's Distribution	W: 0.15 Systems	wmp manufactu	I: 0.15	C: 0.15	D: 0.15
the pump affinity laws, and wonderful pump animatio youtube. Instructor: Sidney Title: Pumps for Water In Description: This course for the pumps for the pu	TU's Distribution ocussed on pu	W: 0.15 Systems mps used ir	WW: 0.15	I: 0.15	C: 0.15 Length: 90 stations include	D: 0.15
the pump affinity laws, and wonderful pump animatio youtube. Instructor: Sidney Title: Pumps for Water In Description: This course for pumps, can pumps, single	TU's Distribution ocussed on pustage centrifu	W: 0.15 Systems mps used ir ugal pumps,	www. 0.15 wells and boo and more. The	I: 0.15 ster pump se pieces and	C: 0.15 Length: 90 stations included parts of each	D: 0.15
mechanism of action are dethe pump affinity laws, and wonderful pump animation youtube. Instructor: Sidney Title: Pumps for Water laws and pumps, can pumps, single their function are discussed Instructor: Josh	TU's Distribution ocussed on pustage centrifu	W: 0.15 Systems mps used ir ugal pumps,	www. 0.15 wells and boo and more. The	I: 0.15 ster pump se pieces and	C: 0.15 Length: 90 stations included parts of each	D: 0.15 min ling turbine

LITIO: HVARALILICS RASICS				Length: 90	min
Title: Hydraulics Basics Description: This 90?minute co	nureo discussos basic	nroportios of v	vator includi		
pressure, and specific gravity.					
Multiple examples of why pres					
	•			, ,	
including: determining pressu		•	•	0 0	
and floating tanks, surcharging					
concepts of velocity and water		•			•
demonstration of a ram pump					
Instructor: Sidney	TU's W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15
<u> </u>				T	
Title: Hydraulics of Pumped	d Systems			Length: 150	
Description: This 150?minute					
pump operation. The presenta	· ·	•		,	
its components, the difference	e between suction lif	t and suction he	ead, and how	v to calculate	major and
minor losses in a system. The s	second portion of the	e talk discusses	work, powe	r, and energy	, how each is
calculated, and the cost of run	ning a piece of equip	oment. The pres	sentation co	ntinues with a	a discussion
of discharge velocity from a ce	entrifugal pump, calc	ulating impeller	r diameter, a	ind the pump	affinity laws.
Attendees will learn to predict	t pump discharge, bra	ake horsepowe	r, amp draw	, and discharg	e head from
changes to either the pump sp	peed or impeller dian	neter. The prese	entation end	ls with a discu	ission of
cavitation, net positive suction	-	•			
Instructor: Sidney	TU's W: 0.25	WW: 0.25	I: 0.25	C: 0.25	D: 0.25
	l l	L.	L	L.	L
Title: Lift Stations - Collection	ons and Wastewat	er		Length: 90	min
Description: This 60?minute page 1	resentation discusse	s dry pit and we	et pit lift stat	ions, pump ar	rangement,
level indicator equipment, and					
of confined space entry and th	•				
					id causes of
		s mitigation tec			
different types of corrosion are		s mitigation ted			
different types of corrosion are and cathodic protection.		s mitigation ted			
different types of corrosion are	e discussed as well a		chniques incl	uding coating	s, wrapping,
different types of corrosion are and cathodic protection. Instructor: Sidney	e discussed as well a		chniques incl	uding coating	D:
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station	e discussed as well a	WW:	chniques incl	C: 0.15 Length: 90	D:
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump	TU's W:	WW:	thniques incl	C: 0.15 Length: 90 in ACRP's "Op	D: min peration of
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" c	e discussed as well a TU's W: s p station course is baourse book. Topics i	WW: ased on materia	I: I presented booster sta	C: 0.15 Length: 90 in ACRP's "Options, typical of	D: min peration of equipment
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" conumbering system for booster	TU's W: TU's W: p station course is bacourse book. Topics is station equipment,	WW: ased on materia nclude types of booster station	I: I presented booster star building cor	C: 0.15 Length: 90 in ACRP's "Options, typical opponents, co	D: min peration of equipment mmon
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" on umbering system for booster mechanical components, components, components.	TU's W: TU's W: p station course is bacourse book. Topics in station equipment, mon electrical compared.	WW: ased on materia nclude types of booster station onents, typical	I: Il presented booster state building contact building contact building contact booster purification.	C: 0.15 Length: 90 in ACRP's "Options, typical opponents, comp station electrons."	D: min peration of equipment mmon ctrical control
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" conumbering system for booster mechanical components, comidiagrams and control sequence	TU's W: TU's W: p station course is bacourse book. Topics is station equipment, mon electrical complee, safety consideration.	WW: ased on materia nclude types of booster station onents, typical ons, and typical	I: Il presented booster state building contact building	C: 0.15 Length: 90 in ACRP's "Options, typical opponents, comp station elected shut-down stations of the color of the col	min peration of equipment mmon etrical control sequences.
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" on numbering system for booster mechanical components, components, components.	TU's W: TU's W: p station course is bacourse book. Topics in station equipment, mon electrical compared.	WW: ased on materia nclude types of booster station onents, typical	I: Il presented booster state building contact building contact building contact booster purification.	C: 0.15 Length: 90 in ACRP's "Options, typical opponents, comp station electrons."	D: min peration of equipment mmon ctrical control
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" conumbering system for booster mechanical components, comidiagrams and control sequence Instructor: Josh	TU's W: TU's W: p station course is bacourse book. Topics in station equipment, mon electrical compare, safety consideration TU's W: 0.15	WW: ased on materia nclude types of booster station onents, typical ons, and typical	I: Il presented booster state building contact building	C: 0.15 Length: 90 tions, typical of mponents, comp station elected shut-down station of C:	min peration of equipment mmon ctrical control sequences. D: 0.15
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" on numbering system for booster mechanical components, communication components, communication components. Instructor: Josh Title: Valves - Types and Us	TU's W: TU's W: p station course is bacourse book. Topics is station equipment, mon electrical complee, safety consideration TU's W: 0.15	WW: ased on materia nclude types of booster station onents, typical ons, and typical WW:	l: I presented booster starbooster pum start-up and l:	C: 0.15 Length: 90 tions, typical of the station elected shut-down st	D: min peration of equipment mmon ctrical control sequences. D: 0.15
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" on numbering system for booster mechanical components, come diagrams and control sequence Instructor: Josh Title: Valves - Types and Us Description: This presentation	TU's W: TU's W: p station course is bacourse book. Topics in station equipment, mon electrical complee, safety consideration of TU's W: 0.15 TU's W: 0.15	ww: ased on materia nclude types of booster station onents, typical ons, and typical ww:	l: Il presented booster starbooster pum start-up and l:	C: 0.15 Length: 90 tions, typical of the ponents, components, compostation elected shut-down station. C: Length: 60 titer and waste	D: min peration of equipment mmon ctrical control sequences. D: 0.15
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" on umbering system for booster mechanical components, come diagrams and control sequence Instructor: Josh Title: Valves - Types and Us Description: This presentation systems, components, constructors.	TU's W: TU's W: TS p station course is base ourse book. Topics is station equipment, mon electrical complete, safety consideration TU's W: 0.15 TU's W: 0.15 GES discusses the various and function of	ww: ased on materia nclude types of booster station onents, typical ons, and typical ww: ww:	I: Il presented booster state building control booster pure I start-up and I : es used in waited application.	C: 0.15 Length: 90 tions, typical of ponents, components, composition elected shut-down station elected shut-down stations.	min peration of equipment mmon ctrical control sequences. D: 0.15
different types of corrosion are and cathodic protection. Instructor: Sidney Title: Booster Pump Station Description: The booster pump Water Distribution Systems" on numbering system for booster mechanical components, come diagrams and control sequence Instructor: Josh Title: Valves - Types and Us Description: This presentation	TU's W: TU's W: p station course is bacourse book. Topics in station equipment, mon electrical complee, safety consideration of TU's W: 0.15 TU's W: 0.15	ww: ased on materia nclude types of booster station onents, typical ons, and typical ww:	l: Il presented booster starbooster pum start-up and l:	C: 0.15 Length: 90 tions, typical of the ponents, components, compostation elected shut-down station. C: Length: 60 titer and waste	D: min peration of equipment mmon ctrical control sequences. D: 0.15

Title: Chlorine Disinfection - \	Wastewater Focu	S		Length: 90	min
Description: This wastewater for	cussed presentation	n walks the part	ticipant thro	ough chlorine	chemistry,
the different forms of chlorine a					
the safe handling of gaseous and					
class covers recommended dose	•				
water chemistry and temperature					
Instructor: Sidney	TU's W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15
matractor. Startey	10 3 10.10	77 77 . 0.10	1. 0. 10	0. 0. 10	D. 0.10
Title: Chlorine Disinfection - \	Water Focus			Length: 90	min
Description: This water treatmer	nt focussed course	will discuss the	purpose of	disinfection,	and effect of
pH, Temperature, and organic m					
free and total chlorine, demand					
and operation and maintenance	3 1				,
Instructor: Sidney	TU's W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15
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Title: Corrosion Control Basic	:s			Length: 60	min
Description: This class discusses	the different types	of corrosion th	at can occu	ır in water and	d wastewater
treatment systems. The concept					
different types of localized corro	•				, , , , , , , , , , , , , , , , , , ,
Instructor: Sidney	TU's W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1
	1	•			
Title: Intermediate Corrosion	Control			Length: 120) min
		trolling corrosic	on is discuss	•	
Title: Intermediate Corrosion	ng methods for con			sed at length:	materials
Title: Intermediate Corrosion Description: Each of the followin	ng methods for contactive galvanic prot	ection, reducin	g hydrogen	sed at length: sulfide forma	materials ation through
Title: Intermediate Corrosion Description: Each of the following selection, coatings, passive and a	ng methods for cont active galvanic prot ipitation, pH contro	ection, reducin I, oxygen addit	g hydrogen ion), are dis	sed at length: sulfide forma scussed as we	materials ation through II as
Title: Intermediate Corrosion Description: Each of the followir selection, coatings, passive and a various methods (chemical preci	ng methods for conf active galvanic prot ipitation, pH contro corrosion of manhol	ection, reducin I, oxygen addit	g hydrogen ion), are dis	sed at length: sulfide forma scussed as we	materials ation through II as
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preciminimizing dead spots. Crown c	ng methods for conf active galvanic prot ipitation, pH contro corrosion of manhol	ection, reducin I, oxygen addit	g hydrogen ion), are dis	sed at length: sulfide forma scussed as we	materials ation through II as
Title: Intermediate Corrosion Description: Each of the following selection, coatings, passive and a various methods (chemical preciminimizing dead spots. Crown coatings associated with pump star	ng methods for confactive galvanic protipitation, pH controcorrosion of manholations.	ection, reducin ol, oxygen addit les and concret	g hydrogen ion), are dis e pipe is dis	sed at length: sulfide forma scussed as we scussed as we	materials ation through II as II as corrosion
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preciminimizing dead spots. Crown c issues associated with pump star Instructor: Sidney	ng methods for confactive galvanic protipitation, pH controcorrosion of manholations. TU's W: 0.2	ection, reducin ol, oxygen addit les and concret WW: 0.2	g hydrogen ion), are dis e pipe is dis	sed at length: sulfide forma scussed as we scussed as we	materials ation through II as II as corrosion D: 0.2
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in	ng methods for confactive galvanic protipitation, pH controcorrosion of manholations. TU's W: 0.2 Distribution Sys	tection, reducinor, oxygen additional design and concretion www. 0.2	g hydrogen ion), are dis e pipe is dis I: 0.2	sed at length: a sulfide formation of the secure of the se	materials ation through II as II as corrosion D: 0.2
Title: Intermediate Corrosion Description: Each of the followir selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses	ng methods for confactive galvanic protipitation, pH controcorrosion of manholations. TU's W: 0.2 Distribution Systhe different corroc	ection, reducinol, oxygen additional design and concretion www. 0.2 tems sion control in control i	g hydrogen ion), are dis e pipe is dis I: 0.2 distribution	sed at length: a sulfide formation scussed as we scussed as we coussed as we coussed as we length: 120	materials ation through II as II as corrosion D: 0.2 O min e concept of
Title: Intermediate Corrosion Description: Each of the following selection, coatings, passive and a various methods (chemical precipination of the following selection, coatings, passive and a various methods (chemical precipination of the following selection of t	ng methods for confactive galvanic protipitation, pH controcorrosion of manholations. TU's W: 0.2 Distribution System of the different corrosion of the chemical control of the chemical corrosion.	tection, reducing land land land land land land land land	g hydrogen ion), are dis e pipe is dis l: 0.2 distribution d different	sed at length: a sulfide formation scussed as we scussed as we coussed as we coussed as we length: 120	materials ation through II as II as corrosion D: 0.2 O min e concept of ized
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Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque	ng methods for confactive galvanic protipitation, pH control corrosion of manhol tions. TU's W: 0.2 Distribution Systhe different corrosion well as the chemical methods for contrestering agents such	tection, reducing large and concrete www. 0.2 tems sion control in colling corrosion has polyphospl	g hydrogen ion), are dis e pipe is dis l: 0.2 distribution d different is discusse hate, adjust	ced at length: a sulfide formation scussed as we scussed as we coussed as we length: 120 L	materials ation through II as II as corrosion D: 0.2 O min e concept of ized selection of er chemistry
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque to form passivating films, addition	ng methods for confactive galvanic protipitation, pH control corrosion of manhol tions. TU's W: 0.2 Distribution Systhe different corrosion well as the chemical methods for contrestering agents such	tection, reducing large and concrete www. 0.2 tems sion control in colling corrosion has polyphospl	g hydrogen ion), are dis e pipe is dis l: 0.2 distribution d different is discusse hate, adjust	ced at length: a sulfide formation scussed as we scussed as we coussed as we length: 120 L	materials ation through II as II as corrosion D: 0.2 O min e concept of ized selection of er chemistry
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque to form passivating films, additio protection.	ng methods for confactive galvanic protipitation, pH control corrosion of manholations. TU's W: 0.2 Distribution System of the different corrosion well as the chemical methods for contrestering agents such on of film forming a	tection, reducinol, oxygen additudes and concretures WW: 0.2 tems sion control in cont	g hydrogen ion), are dis e pipe is dis I: 0.2 distribution d different i is discusse hate, adjust ilicates and	ced at length: a sulfide formation of scussed as we see that the security of systems. The types of local and at length: stiment of water phosphates,	materials ation through II as II as corrosion D: 0.2 O min e concept of ized selection of er chemistry and galvanic
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Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump star Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque to form passivating films, addition protection. Instructor: Sidney Title: Electrical Basics Description: Electrical Basics is b	ng methods for confactive galvanic protipitation, pH control corrosion of manhol tions. TU's W: 0.2 Tuble Distribution System of the chemical methods for control on of film forming a passed on a chapter for control with the chemical methods.	tection, reducing look oxygen additionally oxy	g hydrogen ion), are dise pipe is dise pipe is dise distribution different is discussenate, adjust ilicates and li:	ced at length: a sulfide formation scussed as we scussed as we coussed as we coussed as we length: 120	materials ation through II as III as corrosion D: 0.2 O min e concept of ized selection of er chemistry and galvanic D: 0.2 min I Water
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Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque to form passivating films, addition protection. Instructor: Sidney Title: Electrical Basics Description: Electrical Basics is b Systems". Topics include: atom resistance), types of circuits, dire	ng methods for confactive galvanic protipitation, pH control corrosion of manhol tions. TU's W: 0.2 TDistribution System of the different corrosion agents such as the chemical methods for control control of film forming a tru's W: 0.2 TU's W: 0.2	tection, reducing l, oxygen additudes and concretudes and concretudes and concretudes and concretudes and control in cont	g hydrogen ion), are dise pipe is dise pipe is dise listribution distribution is discussenate, adjust illicates and listribution distribution distribution discussenate, adjust illicates and listribution distribution distributi	ced at length: a sulfide formation scussed as we scussed at length: 120 a systems. The types of local and at length: 50 action to Small amperage, and e-phase power.	materials ation through II as II as corrosion D: 0.2 O min e concept of ized selection of er chemistry and galvanic D: 0.2 min I Water and er,
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preciminimizing dead spots. Crown cissues associated with pump star Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque to form passivating films, addition protection. Instructor: Sidney Title: Electrical Basics Description: Electrical Basics is b Systems". Topics include: atom resistance), types of circuits, directle electromagnetism, and components.	ng methods for confactive galvanic protipitation, pH control corrosion of manhol tions. TU's W: 0.2 TDistribution Systhe different corrosion agents such as the chemical methods for control con of film forming a tru's W: 0.2 TU's W: 0.2	tection, reducing l, oxygen additudes and concretudes and concretudes and concretudes and concretudes and control in cont	g hydrogen ion), are dise pipe is dise pipe is dise listribution distribution is discussenate, adjust illicates and listribution distribution distribution discussenate, adjust illicates and listribution distribution distributi	ced at length: a sulfide formation scussed as we scussed at length: 120 a systems. The types of local and at length: 50 action to Small amperage, and e-phase power.	materials ation through II as II as corrosion D: 0.2 O min e concept of ized selection of er chemistry and galvanic D: 0.2 min I Water and er,
Title: Intermediate Corrosion Description: Each of the followin selection, coatings, passive and a various methods (chemical preci minimizing dead spots. Crown c issues associated with pump sta Instructor: Sidney Title: Controlling Corrosion in Description: This class discusses the galvanic cell is introduced as corrosion. Each of the following pipe materials, addition of seque to form passivating films, addition protection. Instructor: Sidney Title: Electrical Basics Description: Electrical Basics is b Systems". Topics include: atom resistance), types of circuits, dire	ng methods for confactive galvanic protipitation, pH control corrosion of manhol tions. TU's W: 0.2 TDistribution Systhe different corrosion agents such as the chemical methods for control con of film forming a tru's W: 0.2 TU's W: 0.2	tection, reducing l, oxygen additudes and concretudes and concretudes and concretudes and concretudes and control in cont	g hydrogen ion), are dise pipe is dise pipe is dise listribution distribution is discussenate, adjust illicates and listribution distribution distribution discussenate, adjust illicates and listribution distribution distributi	ced at length: a sulfide formation scussed as we scussed at length: 120 a systems. The types of local and at length: 50 action to Small amperage, and e-phase power.	materials ation through II as II as corrosion D: 0.2 O min e concept of ized selection of er chemistry and galvanic D: 0.2 min I Water and er,

Title: Chemistry				Length: 90	min
Description: Chemistry is base	d on a chapter fro	om ACRP's book "Ii	ntroduction		
Topics include: characteristics					
compounds, definitions of diff					
discussion of measurement te	5 1	•			
relationships between constitu		ons of pri, anaming	y, and narar	icss, and intro	ddetion to
Instructor: Sidney	TU's W: 0.1	15 WW: 0.15	I: 0.15	C: 0.15	D: 0.15
mistractor. Staricy	103 W. O.	13 VV VV. 0. 13	1. 0. 13	0.0.13	D. 0.13
Title: Trenching and Shorin	a			Length: 120	0 min
Description: Two hour class do		need for a compete	ent site supe	ervisor to eval	uate and take
necessary steps to maintain a					
and safe operatoin whithin a c					<i>5, 5,</i>
Instructor: Josh	TU's W: 0.2		1: 0.2	C: 0.2	D: 0.2
Title: GIS and Asset Manage	ement			Length: 60	min
Description: Utilizing mapping		e management sof	tware to red	J	
and prolong life cycles of equi		e management sor	tware to rec		arice costs
Instructor: Josh	TU's W: 0.1	1 WW: 0.1	I: 0.1	C: 0.1	D: 0.1
			'		
Title: Distribution System V	alves			Length: 60	min
Description: Distribution syste		ypes and design, re	epair consid	erations, and	typical uses.
Instructor: Josh	TU's W: 0.1		I: 0.1	C: 0.1	D: 0.1
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Title: Math for the Utility M	lanager			Length: 90	min
				_	
Description, Statting considers	ations budgeting	for maintenance :	and prioritiz	ina broiecis w	/III DE
Description: Staffing considera	ations, budgeting	for maintenance,	and prioritiz	ing projects w	ill be
convered.					
	TU's W: 0.1		I: 0.15	C: 0.15	D: 0.15
convered. Instructor: Josh	TU's W: 0.1	15 WW: 0.15		C: 0.15	D: 0.15
convered. Instructor: Josh Title: Communication and F	TU's W: 0.1	15 WW: 0.15	I: 0.15	C: 0.15	D: 0.15
convered. Instructor: Josh Title: Communication and F Description: Proper communication	TU's W: 0.1 Public Relations cation strategies.	WW: 0.15 WW: 0.15 Public notification	I: 0.15	C: 0.15 Length: 60 and compliance	D: 0.15
convered. Instructor: Josh Title: Communication and F	TU's W: 0.1	WW: 0.15 WW: 0.15 Public notification	I: 0.15	C: 0.15	D: 0.15
convered. Instructor: Josh Title: Communication and F Description: Proper communic Instructor: Josh	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1	WW: 0.15 WW: 0.15 Public notification	I: 0.15	C: 0.15 Length: 60 and compliand C: 0.1	D: 0.15 min ce. D: 0.1
convered. Instructor: Josh Title: Communication and F Description: Proper communic Instructor: Josh Title: Confined Space Entry	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1	WW: 0.15 Public notification WW: 0.1	I: 0.15 n, CCR data a	C: 0.15 Length: 60 and complianc C: 0.1 Length: 90	D: 0.15 min ce. D: 0.1
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convered. Instructor: Josh Title: Communication and F Description: Proper communic Instructor: Josh Title: Confined Space Entry	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1	15 WW: 0.15 Public notification WW: 0.1 ntry requirements	I: 0.15 n, CCR data a	C: 0.15 Length: 60 and complianc C: 0.1 Length: 90	D: 0.15 min ce. D: 0.1
Convered. Instructor: Josh Title: Communication and F Description: Proper communic Instructor: Josh Title: Confined Space Entry Description: Safety programs, Instructor: Josh	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1 confined space e	15 WW: 0.15 Public notification WW: 0.1 ntry requirements	I: 0.15 n, CCR data a I: 0.1	C: 0.15 Length: 60 and compliand C: 0.1 Length: 90 dures.	D: 0.15 min ce. D: 0.1 min D: 0.15
convered. Instructor: Josh Title: Communication and F Description: Proper communic Instructor: Josh Title: Confined Space Entry Description: Safety programs, Instructor: Josh Title: Instrumentation and	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1 confined space e TU's W: 0.1	Public notification WW: 0.15 WW: 0.1 ntry requirements WW: 0.15	I: 0.15 n, CCR data a I: 0.1 and procee	C: 0.15 Length: 60 and complianc C: 0.1 Length: 90 dures. C: 0.15	D: 0.15 min ce. D: 0.1 min D: 0.15
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Convered. Instructor: Josh Title: Communication and F Description: Proper communication instructor: Josh Title: Confined Space Entry Description: Safety programs, Instructor: Josh Title: Instrumentation and Description: SCADA and WQ in Instructor: Josh Title: Using Data to Optimize	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1 confined space e TU's W: 0.1 Control nstrumentation of TU's W: 0.1	Public notification WW: 0.15 WW: 0.1 ntry requirements WW: 0.15 verview, theory, and WW: 0.1	I: 0.15 n, CCR data a I: 0.1 and procee I: 0.15 nd concepts I: 0.1	C: 0.15 Length: 60 and compliance C: 0.1 Length: 90 dures. C: 0.15 Length: 60 C: 0.1	D: 0.15 min ce. D: 0.15 min D: 0.15 min D: 0.15
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Convered. Instructor: Josh Title: Communication and F Description: Proper communication instructor: Josh Title: Confined Space Entry Description: Safety programs, Instructor: Josh Title: Instrumentation and E Description: SCADA and WQ in Instructor: Josh Title: Using Data to Optimize	TU's W: 0.1 Public Relations cation strategies. TU's W: 0.1 confined space e TU's W: 0.1 Control nstrumentation of TU's W: 0.1	Public notification WW: 0.15 Public notification WW: 0.1 ntry requirements WW: 0.15 verview, theory, and WW: 0.1 mization. Recognic sample, correlation	I: 0.15 and procee I: 0.15 and concepts I: 0.1	C: 0.15 Length: 60 and complianc C: 0.1 Length: 90 dures. C: 0.15 Length: 60 C: 0.1 Length: 90 ion" and "specific process."	D: 0.15 min ce. D: 0.15 min D: 0.15 min D: 0.15

Title: Project Management and CIP's						min
Description: Utilizing Asset man	agemen	it / Data Ana	lysis to determ	nine capital	planning	
Instructor: Josh	TU's	W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1
Title: Management Consider	ations				Length: 90	min
Description: 90 minute course c		e managem	ent of resource	es from fin	•	
water supplies. Prioritization te						
Programs are discussed.	omique	3, overlappii	ng rate stadies	, budgets, c	ina capitai in	provement
Instructor: Sidney	TU's	W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15
Title: Representative Sampli	ng				Length: 120) min
Description: This two hour class	explain	s what it me	ans to take a r	epresentati	ve sample. W	/e'll look at
the language of sampling (popu						
evaluate various sampling locat				•	•	•
way to help attendees make inf		•	,	•	•	
composites are appropriate, the	level o	f QA/QC req	uired, samplin	g container	s, and preserv	ation at
methods. Improve your process				•	•	
Instructor: Sidney	TU's	W: 0.2	WW: 0.2	I: 0.2	C: 0.2	D: 0.2
Title: Various laboratory pro	cedure	s, each			Length: 60	min
Description: These one hour tall	ks cover	a variety of	laboratory tes	ting proced	ures used in v	vater and
wastewater labs. Each method	has its c	wn one hou	r powerpoint	presentatio	n with lots of	photographs
walking analysts through proced	dures ste	ep by step. A	Appropriate Q	A/QC sampl	es for each m	ethod are
discussed as well as what to do	when Q	A samples ar	re out of limits	. Each pres	entation refe	rences back
to EPA 200 series methods and	Standar	d Methods.		·		
Instructor: Sidney	TU's	W: 0.1	WW: 0.1	I: 0.1	C: 0	D: 0
Title: BOD, TSS, Alkalinity an	d Hard	ness, other	S		Length: mi	n
Description:						
Instructor: Sidney	TU's	W:	WW:	l:	C:	D:
			-	•		

Title: One Full Day Sampling						
	and An	alysis Evalu	ation		Length: 480) min
Description: This eight?hour on:	site traii	ning course v	vill provide site	e?specific tr	aining on wa	stewater
sampling and laboratory proced	ures. Th	e intent of th	nis training is to	o improve s	ampling and	testing
procedures at individual facilitie	s by obs	serving and c	orrecting stand	dard operat	ing procedure	es. Training
will include a discussion of repre	esentativ	ve sampling a	and a review of	f clean sam _l	oling procedu	ıres. Each
existing sampling location at the			•			•
according to their standard oper	• .					
is complete, the instructor will p				•		
particular location. The instructor				0.		
processes. Appropriate sampling	,					
Approximately 2 hours will be no				•		
on?site laboratory procedures.		•		•	•	
including: BOD, ammonia, fecal		•				•
instructor will observe each prod		•	•			
improve analytical technique. Af		0 3				
procedure while explaining each PowerPoint presentation will be						one noui
recommended by Standard Met						
Instructor: Sidney	TU's	W: 0.4	WW: 0.8	1: 0.8	C: 0	D: 0
mstructor. Sidney	103	VV. U. T	VVVV. O.O	1. 0.0	10.0	D. 0
Title: Lab Cram					Length: 420) min
Description: The lab cram walks	particip	ants though	the most com	mon laborat	ory tests use	d for water
and wastewater. We highlight t		•			•	
each test, and the basic procedu						
each step. Ideal for folks who do						
procedures						
procedures.						
Instructor: Sidney	TU's	W: 0.7	WW: 0.7	I: 0.7	C: 0.7	D: 0.7
·	TU's	W: 0.7	WW: 0.7	I: 0.7		D: 0.7
Instructor: Sidney Title: Federal Pretreatment P	rogram	n and Pollut	ion Preventic	on	Length: 150	D: 0.7
Instructor: Sidney Title: Federal Pretreatment P Description: This course discusse	rogrames the in	n and Pollut ndustrial pret	ion Prevention	on pollution pr	Length: 150	D: 0.7 O min grams. It
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for	rogrames the in	n and Pollut ndustrial pret ect discharge	ion Prevention reatment and rs are determin	on pollution pr ned. The im	Length: 150 evention pro pact of variou	D: 0.7 O min grams. It us types of
Instructor: Sidney Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst	rogrames the in or indire	n and Pollut ndustrial pret ect discharge pecially FOG,	ion Prevention reatment and rs are determinal will be discuss	on pollution pr ned. The im ed. Topics t	Length: 150 evention pro pact of variou o be covered	D: 0.7 O min grams. It us types of include:
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or	rogrames the indirection em, esp	n and Pollut ndustrial pret ect discharge pecially FOG, e, setting loca	ion Prevention reatment and res are determined will be discussed limits, category	on pollution pr ned. The im ed. Topics t prical limits,	Length: 150 evention pro pact of variou o be covered types of user	D: 0.7 O min grams. It us types of include: rs connecting
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and po	rogrames the indirection continuity of the indirection continuity of the indirection for the indirection f	n and Pollut ndustrial pret ect discharge pecially FOG, e, setting loca prevention at	reatment and reatment and rs are determined will be discussed limits, category the source. The	pollution pr pollution pr ned. The im ed. Topics t prical limits, ne pollution	Length: 150 evention pro pact of variou o be covered types of user prevention p	D: 0.7 O min grams. It us types of include: rs connecting portion of the
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and pocourse focusses on how industri	erogrames the in or indirection, esp dinance llution particular	n and Pollul ndustrial pret ect discharge pecially FOG, e, setting loca prevention at can decreas	reatment and reatment and rs are determined will be discussed limits, categorist the source. The water usage	pollution pr ned. The im ed. Topics t orical limits, ne pollution and wastew	Length: 150 evention pro pact of variou o be covered types of user prevention p vater strength	D: 0.7 D min grams. It us types of include: rs connecting portion of the n by
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and por course focusses on how industricimplementing simple changes or	erogrames the in or indirection, esp dinance llution particular	n and Pollul ndustrial pret ect discharge pecially FOG, e, setting loca prevention at can decreas	reatment and reatment and rs are determined will be discussed limits, categorist the source. The water usage	pollution pr ned. The im ed. Topics t orical limits, ne pollution and wastew	Length: 150 evention pro pact of variou o be covered types of user prevention p vater strength	D: 0.7 D min grams. It us types of include: rs connecting portion of the n by
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and pocurse focusses on how industri implementing simple changes or is discussed.	es the in or indire em, esp dinance Ilution p al users n the fac	n and Pollut ndustrial pret ect discharge pecially FOG, e, setting loca prevention at can decreas ctory floor. T	reatment and reatment and rs are determine will be discuss all limits, categor the source. The water usage the use of screet	pollution pr ned. The im ed. Topics t prical limits, ne pollution and wastew ens, water a	Length: 150 evention pro pact of variou o be covered types of user prevention p vater strength udits, and otl	D: 0.7 O min grams. It us types of include: rs connecting oortion of the n by her methods
Instructor: Sidney Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and por course focusses on how industricimplementing simple changes or	erogrames the in or indirection, esp dinance llution particular	n and Pollul ndustrial pret ect discharge pecially FOG, e, setting loca prevention at can decreas	reatment and reatment and rs are determined will be discussed limits, categorist the source. The water usage	pollution pr ned. The im ed. Topics t orical limits, ne pollution and wastew	Length: 150 evention pro pact of variou o be covered types of user prevention p vater strength	D: 0.7 D min grams. It us types of include: rs connecting portion of the n by
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection system legal authority and the sewer or to the collection system, and pocurse focusses on how industri implementing simple changes or is discussed. Instructor: Sidney	es the incorrect indirect indirect indirect indirect indirect indirect indirect individual individu	n and Pollut ndustrial pret ect discharge pecially FOG, e, setting loca prevention at can decreas ctory floor. T	reatment and reatment and rs are determined will be discuss all limits, categor the source. The water usage he use of screen www: 0.25	pollution pr ned. The im ed. Topics t prical limits, ne pollution and wastew ens, water a	Length: 150 evention propact of various of be covered types of user prevention prater strength udits, and other controls.	D: 0.7 O min grams. It us types of include: rs connecting oortion of the h by her methods D: 0
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and pocurse focusses on how industrict implementing simple changes or is discussed. Instructor: Sidney Title: Completing the Discharter in the completion of the collection system, and pocurse focusses on how industrict implementing simple changes or is discussed.	es the incorrection produced in the factorial transfer in the factoria	n and Pollul ndustrial pret ect discharge pecially FOG, e, setting local prevention at can decrease ctory floor. T	reatment and reatment and rs are determined will be discussed limits, categor the source. The water usage he use of screet www: 0.25	pollution pr ned. The im ed. Topics t orical limits, ne pollution and wastew ens, water a	Length: 150 evention propact of various be covered types of user prevention prater strength udits, and other conditions.	D: 0.7 O min grams. It us types of include: rs connecting oortion of the n by her methods D: 0
Title: Federal Pretreatment P Description: This course discusses focuses on how effluent limits for discharges on the collection system, and portion to the collection system, and portion course focusses on how industrict implementing simple changes or its discussed. Instructor: Sidney Title: Completing the Dischard Description: This presentation discussed.	erogrames the incorrect indirect em, especial disers in the factoric TU's	n and Pollul ndustrial pretect discharge pecially FOG, e, setting local prevention at can decrease ctory floor. T W: 0	reatment and reatment and reatment and reatment and reatment and reatment and reatment are determined in the source. The water usage he use of screet www: 0.25	pollution prined. The imped. Topics to prical limits, ne pollution and wastewens, water a	Length: 150 evention pro pact of variou o be covered types of user prevention pro vater strength udits, and oth C: 0.25 Length: 60 of common mis	D: 0.7 D min grams. It us types of include: rs connecting oortion of the n by her methods D: 0 min stakes and
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection system, and por course focusses on how industrial implementing simple changes or is discussed. Instructor: Sidney Title: Completing the Dischart Description: This presentation of misconceptions. We'll walk through the Dischart Description of the course focus of the course foc	es the incorrect indirect indirect indirect indirect indirect indirect indirect indirect individual	n and Pollute dustrial pretect discharge pecially FOG, e, setting local prevention at can decrease ctory floor. The W: 0	reatment and reatment and rs are determined will be discuss all limits, categorathe source. The water usage the use of screen with the water usage and will be water usage and water usage and will be	pollution prined. The imped. Topics topical limits, ne pollution and wastewens, water a l: 0.25	Length: 150 evention pro pact of variou o be covered types of user prevention pro vater strength udits, and otl C: 0.25 Length: 60 of the common mise the various types	D: 0.7 O min grams. It us types of include: rs connecting ortion of the h by her methods D: 0 min stakes and types of
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection system, and porton to the collection system, and porton course focusses on how industrict implementing simple changes or its discussed. Instructor: Sidney Title: Completing the Dischart Description: This presentation disconceptions. We'll walk throw samples collected included grab	es the incorrection particles and the factorial transfer in the factor	n and Pollulated advistrial pretect discharge becially FOG, e, setting local prevention at can decrease ctory floor. The W: 0 Initoring Repair of the Discharge amples of loads ite, and flowed and f	reatment and reatment and rs are determined will be discuss at limits, categor the source. The water usage he use of screen www. 0.25 Oort ge Monitoring ading calculation of the source of the source of the screen we have a source of the screen of the s	pollution proped. The imped. The imped. Topics to prical limits, ne pollution and wastewens, water a l: 0.25 Report and ons, discuss al compositions	Length: 150 evention pro pact of various o be covered types of user prevention pro vater strength udits, and oth C: 0.25 Length: 60 common mis the various ty es, how to re	D: 0.7 O min grams. It us types of include: rs connecting oortion of the n by her methods D: 0 min stakes and ypes of ead
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and pocourse focusses on how industricing simple changes or is discussed. Instructor: Sidney Title: Completing the Dischar Description: This presentation disconceptions. We'll walk throw samples collected included grab laboratory data sheets, and more	erogrames the incorrect indirect em, especial users in the factor TU's erge More iscusses ough example. Parti	n and Pollulandustrial pretect discharge pecially FOG, e, setting local prevention at can decrease ctory floor. The W: 0 Initoring Repair the Discharge amples of load posite, and flow icipants will recommended.	reatment and reatment and rs are determined will be discuss at limits, categor the source. The water usage he use of screen www. 0.25 Oort ge Monitoring ading calculation of the source of the source of the screen we have a source of the screen of the s	pollution proped. The imped. The imped. Topics to prical limits, ne pollution and wastewens, water a l: 0.25 Report and ons, discuss al compositions	Length: 150 evention pro pact of various o be covered types of user prevention pro vater strength udits, and oth C: 0.25 Length: 60 common mis the various ty es, how to re	D: 0.7 O min grams. It us types of include: rs connecting oortion of the n by her methods D: 0 min stakes and ypes of ead
Title: Federal Pretreatment P Description: This course discusse focuses on how effluent limits for discharges on the collection syst legal authority and the sewer or to the collection system, and pocourse focusses on how industricimplementing simple changes or is discussed. Instructor: Sidney Title: Completing the Dischart Description: This presentation disconceptions. We'll walk throsamples collected included grab	erogrames the incorrect indirect em, especial users in the factor TU's erge More iscusses ough example. Parti	n and Pollulandustrial pretect discharge pecially FOG, e, setting local prevention at can decrease ctory floor. The W: 0 Initoring Repair the Discharge amples of load posite, and flow icipants will recommended.	reatment and reatment and rs are determined will be discuss at limits, categor the source. The water usage he use of screen www. 0.25 Oort ge Monitoring ading calculation of the source of the source of the screen we have a source of the screen of the s	pollution proped. The imped. The imped. Topics to prical limits, ne pollution and wastewens, water a l: 0.25 Report and ons, discuss al compositions	Length: 150 evention pro pact of various o be covered types of user prevention pro vater strength udits, and oth C: 0.25 Length: 60 common mis the various ty es, how to re	D: 0.7 O min grams. It us types of include: rs connecting oortion of the n by her methods D: 0 min stakes and ypes of ead

Title: Sources of Discha	arge Permit L	imits			Length: 60	min
Description: This course s	shows participa	ants how di	scharge permit	limits are de	etermined.	Topics include
water quality based efflu						
anti-degredation, and TM		,		,		
Instructor: Sidney	TU's	W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
		1	1	1	1 2: 2	
Title: Characteristics ar	nd Compositi	on of Dom	nestic Wastew	ater	Length: 90	min
Description: Domestic wa						
plant. Unless there are la		•			•	
to some basic principals.	•				•	
Influent TKN should be ar	•					
true and how they can be		•			•	
wastewater characteristic						
representative. Look at ye				illilling wrict	ner sample i	CSGITS ar C
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0.15	D: 0
instructor, siuriey	103	VV. U	VV VV. U. 13	1. 0.15	C. U. 13	D. 0
Tille Oale lalie e Conf	·				Lameth OC	\!
Title: Calculations for E					Length: 90	
Description: We'll look at						
projections, and peaking	factors (peak l	nour, peak o	day, and max m	onth) and h	ow to use th	at informatior
to plan for future needs.		1		_		
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
Title: Lagoons and Nat					Length: 90	
Title: Lagoons and Nato Description: This 90?minu			nethod of opera	ition for lag		
Description: This 90?minu	ute section pre	esents the n			oons and var	ious fixed film
Description: This 90?minuprocesses including trickl	ute section pre ing filters, rota	esents the nating biolog	ical contactors,	biological a	oons and var erated filters	ious fixed film , and others.
Description: This 90?minu processes including trickl Basic design principals ar	ute section pre ing filters, rota e discussed fo	esents the nating biological relationships the second seco	ical contactors, well as biologic	biological ac cal processe	oons and var erated filters s taking plac	ious fixed film , and others. e in aerobic,
Description: This 90?minu processes including trickl Basic design principals ar facultative, and anaerobi	ute section pre ing filters, rota e discussed fo c ponds. Differ	esents the nating biological relagions as rences between the contract of the c	ical contactors, well as biologion ween fixed film s	biological ac cal processe ystems and	oons and var erated filters s taking plac suspended (ious fixed film , and others. e in aerobic, growth /
	ute section pre ing filters, rota e discussed for c ponds. Differ ssed as well as	esents the nating biological relagoons as rences between the typical ope	ical contactors, swell as biologic reen fixed film s rating ranges fo	biological actail processe ystems and or each systems	oons and var erated filters s taking plac suspended g em type inclu	ious fixed film , and others. e in aerobic, growth / iding hydrauli
Description: This 90?minu processes including trickl Basic design principals are facultative, and anaerobio hybrid systems are discus	ute section pre ing filters, rota e discussed for c ponds. Differ ssed as well as c. This course is	esents the nating biological relagoons as rences between typical ope	ical contactors, s well as biologic reen fixed film s rating ranges fo nted with many	biological actail processe ystems and or each syste photograph	poons and var erated filters s taking plac suspended g em type inclus s showing d	ious fixed film , and others. e in aerobic, growth / iding hydrauli ifferent
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Title: Activated Sludge Basics					Length: 60	min
Description: This course introduc		icipants to th	e basics of act	ivated slude	ge. It present	S
fundamental concepts such as sp						
secondary clarifier, and surface of		•			•	
and how changing one necessari						
aeration activated sludge plants			o. Typioai rang	103 101 00111	ortional and	oxtoridod
Instructor: Sidney	TU's	W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
matractor: alaricy	103	100.0	VV VV. O. 1	1. 0. 1	0.0	р. о
Title: Types of Activated Slud	ge Syst	tems			Length: 90 i	min
Description: Different types of ac			ms are discus	sed with a fo	ocus on flow	patterns
(complete mix, plug flow, batch)						
step feed, high rate, etc.). Simple		•	••			
Pros and cons of each type of sys						
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
	1.00	111.0	11111 0110		1 0. 0	1 2.0
Title: Activated Sludge Proces	s Cont	rol Method	ologies		Length: 90 i	min
Description: This activated sludg	e cours	e focuses on	process contro	ol technolog	ies and can b	e tailored to
a specific treatment plant. The						
MLSS mass, and food to microor	,	O .	•	,		
selective wasting, use of anoxic a						
discussed depending on the part			•			
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
Title: Activated Sludge Microl	hiology				Length: 60	min
Description: Activated sludge mi			nad overview	of the role	Ū	
microorganisms present in activa						other
especially filaments, can be an in						
the growth of common activated						
Instructor: Sidney	TU's	W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
mstructor. Siuriey	103	VV. O	VV VV. O. I	1. 0. 1	0.0	D. 0
Title: Secondary Clarifier Ope		and Ctata D	aint Analysis		Length: 90 i	min
Tille. Secondary Clariller Obe		and State P	oint Anaiysis	•	Lengin. 90 i	11111
Description: This course gives an			of secondary	clarifier stat	, ,	sis which is a
Description: This course gives an mathematical model used to pre	dict sec	condary clarif	of secondary ier performan	clarifier stat ce based or	ı sludge settli	sis which is a ng
Description: This course gives an mathematical model used to pre characteristics, solids loading rat	edict sec e, surfa	condary clarif ice overflow i	of secondary ier performan rate, and retur	clarifier stat ce based or	ı sludge settli	sis which is a ng
Description: This course gives an mathematical model used to pre characteristics, solids loading rat will actively utilize the model in a	edict sec e, surfa class for	condary clarif ice overflow i hands-on ex	of secondary ier performan rate, and retur ercises.	clarifier stat ce based or n activated	sludge settli sludge rate.	sis which is a ng Participants
Description: This course gives an mathematical model used to pre characteristics, solids loading rat	edict sec e, surfa	condary clarif ice overflow i	of secondary ier performan rate, and retur	clarifier stat ce based or	ı sludge settli	sis which is a ng
Description: This course gives an mathematical model used to pre characteristics, solids loading rat will actively utilize the model in constructor: Sidney	edict sec e, surfa class for TU's	condary clarif ice overflow i hands-on ex W: 0	of secondary ier performan rate, and retur ercises. WW: 0.15	clarifier stat ce based or n activated	sludge settli sludge rate. C: 0	sis which is a ng Participants D: 0
Description: This course gives an mathematical model used to pre characteristics, solids loading rat will actively utilize the model in constructor: Sidney Title: Activated Sludge Process	edict sec e, surfa class for TU's	condary clarif ace overflow in hands-on ex W: 0	of secondary ier performan rate, and retur ercises. WW: 0.15	clarifier stat ce based or n activated	sludge settli sludge rate. C: 0	sis which is a ng Participants D: 0
Description: This course gives an mathematical model used to pre characteristics, solids loading rat will actively utilize the model in constructor: Sidney Title: Activated Sludge Procest Description: Activated sludge process	edict sec re, surfa class for TU's ss Cont	condary clarif ice overflow i hands-on ex W: 0 rol Tests - P ontrol tests di	of secondary ier performan rate, and retur sercises. WW: 0.15 art 1 iscussed in par	clarifier stat ce based or n activated I: 0.15	C: 0 Length: 90 of Clarifier dep	sis which is a ng Participants D: 0 min oth of
Description: This course gives an mathematical model used to pre characteristics, solids loading rat will actively utilize the model in constructor: Sidney Title: Activated Sludge Process	edict sec re, surfa class for TU's ss Cont	condary clarif ice overflow i hands-on ex W: 0 rol Tests - P ontrol tests di	of secondary ier performan rate, and retur sercises. WW: 0.15 art 1 iscussed in par	clarifier stat ce based or n activated I: 0.15	C: 0 Length: 90 of Clarifier dep	sis which is a ng Participants D: 0 min oth of
Description: This course gives an mathematical model used to pre characteristics, solids loading rat will actively utilize the model in constructor: Sidney Title: Activated Sludge Procest Description: Activated sludge process	edict sector, surfactlass for TU's Sector Content of the Content o	condary clarifice overflow in hands-on exit W: 0 crol Tests - Prontrol tests directer, Sludge	of secondary ier performan rate, and retur kercises. WW: 0.15 art 1 iscussed in par Volume Index	clarifier stat ce based or n activated I: 0.15	C: 0 Length: 90 of Clarifier dep	sis which is a ng Participants D: 0 min oth of

THUE ACTIVATED SIDUYE F	Process Contro	ol Tests - F	Part 2		Length: 90) min
Description: Activated slud				t 2 include:	Process Co	ntrol Charts,
Cumulative Sum Charts (Cl	0 1		•			
Uptake Rate	,,	,	, . , . , .		,	73
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
matractor, siariey	103	<u> </u>	1000.0.10	1. 0. 10	0.0	D. 0
Title: Activated Sludge T	roubleshooti	na			Length: 15	50 min
Description: This lengthy tr			lks narticinants	through h		
(change one thing at a time						
big ones, etc.), interpretati		0		•		0
foaming based on appeara				•	•	
Participants are walked thr						
back to the basics of what						
Instructor: Sidney	TU's \	W: 0	WW: 0.25	I: 0.25	C: 0	D: 0
					_	
Title: Secondary Clarifie	r Troubleshoo	oting			Length: 90) min
Description: Secondary cla	rifier troublesh	ooting wall	ks attendees tl	rough basi	c calculatior	ns for clarifier
process control including s	olids flux and a	basic mass	s balance. Atte	endees will	learn to reco	ognize the
signs of denitrification in the	ne sludge blank	cet, pin floc	, straggler floc	, the rolling	pattern ass	ociated with
hydraulic surge, and other	common probl	lems encou	intered in seco	ndary clarif	iers.	
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
			1			1
Title: Colorado Nutrient	Criteria Revie	ew ew			Length: 60) min
Description: This course give	ves an overviev	v of the nev	w Regulation 8	5 for contro	ol of Nutrier	its and the
stream standards for nutric	ents that were	adopted in	to Regulation	31.		
Instructor: Sidney	TU's '	W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
HISH UCTOL: SIGNEY			<u> </u>	· ·		
instructor, sidney						
•	Basics				Length: 60) min
Title: Nitrogen Removal		basics of bi	iological nitrifi	cation and		
Title: Nitrogen Removal Description: This presentat	tion covers the				denitrification	on. It is meant
Title: Nitrogen Removal Description: This presental as an introduction to the to	tion covers the opic for D and (C level oper	rators. The cou	urse focuse:	denitrifications on the organization	on. It is meant anisms
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification	tion covers the opic for D and (n and denitrific	C level oper ation and tl	rators. The cou heir growth re	urse focuse:	denitrifications on the organization	on. It is meant anisms
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica	tion covers the opic for D and (n and denitrifical changes that	C level oper ation and tl take place.	rators. The cou heir growth re	urse focuses quirements	denitrifications on the organisms as well as a	on. It is meant anisms basic
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification	tion covers the opic for D and (n and denitrifical changes that	C level oper ation and tl	rators. The cou heir growth re	urse focuse:	denitrifications on the organization	on. It is meant anisms
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney	tion covers the opic for D and (n and denitrifical changes that	C level oper ation and tl take place. W: 0.1	rators. The cou heir growth re- 	urse focuses quirements	denitrifications on the organization as well as a C: 0	on. It is meant anisms basic D: 0.1
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney Title: Nitrification and D	tion covers the opic for D and (n and denitrifical changes that TU's T	C level oper ation and the take place. W: 0.1	rators. The cou heir growth re- WW: 0.1	urse focuse: quirements	denitrifications on the organization as well as a C: 0	on. It is meant anisms basic D: 0.1
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney Title: Nitrification and D Description: This presentat	tion covers the opic for D and 0 n and denitrifical changes that TU's TU's Tunitrification tion covers ami	C level oper ation and the take place. W: 0.1 - Interme monia remo	rators. The cou heir growth re- WW: 0.1 diate Level oval by non?bi	urse focuse: quirements I: 0.1	denitrifications on the organization as well as a C: 0 Length: 12 thods, biolo	on. It is meant anisms basic D: 0.1 20 min gical
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney Title: Nitrification and D Description: This presentat nitrification, and denitrifica	tion covers the opic for D and (n and denitrifical changes that TU's Tu's Tuin Denitrification tion covers amount ton. Topics the	C level oper ation and the take place. W: 0.1 - Interme monia remonat are cove	rators. The cou heir growth re- WW: 0.1 diate Level oval by non?bi ered include: th	urse focuse: quirements I: 0.1 ological mene organism	denitrifications on the organization as well as a C: 0 Length: 12 thods, biologis responsib	on. It is meant anisms basic D: 0.1 20 min gical le for
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney Title: Nitrification and D Description: This presentat nitrification, and denitrifica nitrification and denitrifica	tion covers the opic for D and (n and denitrifical changes that TU's Denitrification tion covers amplition. Topics that ation, stoichiom	C level oper ation and the take place. W: 0.1 - Interme monia remoniat are covenetry, variate	rators. The cou heir growth re- WW: 0.1 diate Level oval by non?bi ered include: the	urse focuse: quirements I: 0.1 ological mene organisment performa	denitrifications on the organ as well as a C: 0 Length: 12 thods, biologis responsibnce, the diff	Dr. O.1 Dr. O.1 Omin Gical Je for Ferent types of
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney Title: Nitrification and D Description: This presentat nitrification, and denitrifica nitrification and denitrifica unit processes (fixed films	tion covers the opic for D and 0 and denitrification tion covers amount of the opic to the	C level oper ation and the take place. W: 0.1 - Interme monia remoniat are covenetry, variate	rators. The cou heir growth re- WW: 0.1 diate Level oval by non?bi ered include: the	urse focuse: quirements I: 0.1 ological mene organisment performa	denitrifications on the organ as well as a C: 0 Length: 12 thods, biologis responsibnce, the diff	Dr. O.1 Dr. O.1 Omin Gical Je for Ferent types of
Title: Nitrogen Removal Description: This presentat as an introduction to the to responsible for nitrification explanation of the chemica Instructor: Sidney Title: Nitrification and D Description: This presentat nitrification, and denitrifica nitrification and denitrifica	tion covers the opic for D and (n and denitrifical changes that TU's venitrification tion covers amount ation. Topics that and activated son.	C level oper ation and the take place. W: 0.1 - Interme monia remoniat are covenetry, variate	rators. The cou heir growth re- WW: 0.1 diate Level oval by non?bi ered include: the	urse focuse: quirements I: 0.1 ological mene organisment performa	denitrifications on the organ as well as a C: 0 Length: 12 thods, biologis responsibnce, the diff	Dr. 0.1 Dr. 0.1 Omin Gical Jefor Ferent types of

Title: Nitrification and	d Denitrifica	tion - Advar	nced Level		Length: 12	20 min
Description: Advanced r	nitrification ar	nd denitrifica	tion goes even fi	urther and i	ntroduces m	ore advanced
topics including: sources			•			
denitrification success, (•				•	
troubleshooting.	asing mass ba	narioos to mix	51111 pr 000055 0011	ti di dedisioi	is, and brin	
Instructor: Sidney	TU	's W: 0	WW: 0.2	I: 0.2	C: 0	D: 0
instructor. Siuriey	10	3 VV. U	VV VV. U.Z	1. 0.2	0.0	D. 0
Title. Dheamharus Dar	mayal Dasias	Dialogical	and Chamical		Length: 60	min
Title: Phosphorus Rer					Ū	
Description: Phosphorus				0	•	•
removal. Attendees wil						
importance of cycling be					benefits of b	iological
phosphorus removal, an	nd a brief intro	oduction to c	hemical remova	I methods.		
Instructor: Sidney	TU	's W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
Title: Biological Phosp	horus Remo	oval - Intern	nediate Level		Length: 60) min
Description: This 60?mir				ogical phosi	phorus remo	val. Topics
include: regulatory drive	•					•
the effect of various ope	•					•
Instructor: Sidney	TU		WW: 0.1	I: 0.1	C: 0	D: 0
instructor. Sidiley		3 00.0	VV VV. O. 1	1. 0. 1	0.0	р. 0
Title: Biological Phosp	horus Remo	 oval - Advar	ced Level		Length: 90) min
Description: Advanced b				al tonics suc	Ū	
influent wastewater cha						
troubleshooting.	ir actoristics, p	redicting bic	r-i success, trie ii	illiactice of	Side-Stream	3, 4114
		's W: 0	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1.015	C. 0	D. 0
Instructor: Sidney	TU	S W: U	WW: 0.15	I: 0.15	C: 0	D: 0
Title: Chemical Dheen	horus Dome				Length: 30) min
Title: Chemical Phosp						
Description: Chemical p	•				•	
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						elected, and
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Title: Troubleshooting BNR	Systems	- Advanced			Length: 90	min
Description: Advanced BNR tro				such as perf	orming mass	s balances,
microscopy, OUR and SOUR tes		•		•	•	
Instructor: Sidney	TU's	W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
				·I	•	
Title: Introduction to Solids	Handling]			Length: 18	0 min
Description: This two?hour pre	esentation	introduces	participants to	various sol	ids handling	processes
including dissolved air floatatio	on thicken	ing, aerobic	digestion, ana	erobic diges	stion, gravity	thickening,
belt presses, centrifuges, and r						
anaerobic digestion are discuss	sed with a	focus on the	e specialized o	rganisms re	esponsible. T	ypical
operating parameters for each	unit proce	ess are pres	ented along wi	th methods	for calculat	ing them. A
brief overview of the 503 regul						
presentation.			·	Ü		
Instructor: Sidney	TU's	W: 0	WW: 0.3	I: 0.3	C: 0	D: 0
	1		I		l .	L .
Title: Aerobic Digestion					Length: 60	min
Description: This course focuss	es specific	cally on aero	bic digestion i	ncludina: tv		
parameters, using on/off aerat	•	•	•	0 3		•
regular decanting, odor potent						
<u> </u>	TU's	W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
Instructor: Sidnev	1 11175 1				0.0	D. 0
Instructor: Sidney	10.2	VV. O	,	1	•	
<u>,</u>	10.2	VV. O	1 11 11 11 11		Length: 12	0 min
Title: Anaerobic Digestion				n with a foo		
Title: Anaerobic Digestion Description: This course focuss	es specific	cally on anae	erobic digestio		us on compo	onents (parts
Title: Anaerobic Digestion Description: This course focuss and purpose including lids, gas and operating criteria, indication	es specific	cally on anae	erobic digestio	exchangers	cus on compo , and more),	onents (parts typical desig
Title: Anaerobic Digestion Description: This course focuss and purpose including lids, gas and operating criteria, indication	es specific	cally on anae	erobic digestio	exchangers	cus on compo , and more),	onents (parts typical desig
Title: Anaerobic Digestion Description: This course focuss and purpose including lids, gas and operating criteria, indication digestion.	es specific	cally on anae	erobic digestio hniques, heat ocess control c	exchangers	cus on compo , and more),	onents (parts typical desig
Title: Anaerobic Digestion Description: This course focuss and purpose including lids, gas and operating criteria, indicatio digestion.	es specific collectior ons of sou	cally on anae n, mixing tec iring, and pro	erobic digestio	exchangers alculations	cus on compo , and more), specific to a	onents (parts typical desigi naerobic
Title: Anaerobic Digestion Description: This course focuss and purpose including lids, gas and operating criteria, indicatio digestion. Instructor: Sidney	ses specific collection ons of sou	cally on anaen, mixing tec oring, and pro W: 0	erobic digestio hniques, heat ocess control c	exchangers alculations	cus on compo , and more), specific to a	onents (parts typical designaerobic D: 0
Title: Anaerobic Digestion Description: This course focuss and purpose including lids, gas and operating criteria, indication digestion. Instructor: Sidney Title: Troubleshooting Anae	es specific collection ons of sou TU's	cally on anaen, mixing tecting, and prower with the work of the wo	erobic digestio hniques, heat ocess control c WW: 0.2	exchangers alculations I: 0.2	cus on compo , and more), specific to a C: 0	onents (parts typical designaerobic D: 0
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Title: Dewatering - Sludge Co	nditioning			Length: 90	min
Description: Sludge conditioning	discusses jar testir	ng to determine	the best ch	emical and o	dose to
achieve the best dewatering at t	he lowest cost. Als	o discussed are	e the import	ance of cher	nical addition
point, aging of dry polymer, feed	d water quality, and	l impact on oth	er unit proce	esses.	
Instructor: Sidney	TU's W: 0	WW: 0.15	I: 0.15	C: 0	D: 0
-	1	-	•	•	•
Title: Dewatering - Belt Filter	Presses			Length: 90	min
Description: This course is devote	ed to operation and	d maintenance	of belt filter	presses. It	begins with a
thorough discussion of belt filter	press theory follow	wed by a close of	examination	of the comp	onents of the
press itself. The second half of the	he course is devote	ed to process co	ontrol calcula	ations specif	ic to belt filter
presses followed by a section on	troubleshooting.				
Instructor: Sidney	TU's W:0	WW: 0.15	I: 0.15	C: 0	D: 0
_			•	•	•
Title: Dewatering - Centrifuge	es			Length: 60	min
Description: This course is devote		d maintenance	of centrifug	es. It begins	s with a
thorough discussion of centrifug	al dewatering theo	ry followed by	a close exan	nination of tl	he equipment
components. The second half of					
specific to centrifuges followed by					•
Instructor: Sidney	TU's W: 0	WW: 0.1	I: 0.1	C: 0	D: 0
,	1	1		· ·	1
Title: Intro to Collection Syste	ems			Length: 60	min
D ' 1' TI' '		collection syste	m and disau	scoc its prim	
Description: This class presents a	an overview of the (conection syste	eni anu uiscu	122G2 1f2 hi ii i	iary
Description: This class presents a components and types. Placeme		,		•	•
components and types. Placeme	ent of interceptors	along natural d	rainages, m	anhole place	ement, pump
components and types. Placeme station function, and inflow and	ent of interceptors a infiltration are disc	along natural d ussed. Collecti	rainages, ma on system a	anhole place rchitecture i	ement, pump is compared to
components and types. Placeme station function, and inflow and distribution system architecture.	ent of interceptors infiltration are disc . The following top	along natural d ussed. Collecti ics are also cov	rainages, ma on system a rered: minin	anhole place rchitecture i num slopes f	ement, pump is compared to for given pipe
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components and types. Placements station function, and inflow and distribution system architecture. diameters, preferred d/D ratios, hydraulic gradeline, and causes of Instructor: Sidney Title: Collection System Inspection: This three hour coursystem inspection, testing, and codye testing, sewer balling, jetting maintaining good system records	ent of interceptors a infiltration are disc. The following top scour at peak hour of surcharging. TU's W: 0 ection and Testing ree introduces part cleaning including: 0 g, rodding, flushing s and maps of the confidence.	along natural deussed. Collectics are also cover flows, pipe market WW: 0.1 WW: 0.1 Jection in the properties of the p	rainages, makered: minimaterials, velo I: 0.1 purposes anelevision inspechines. The mis emphase	anhole place rchitecture in num slopes f cities in forc C: 0.1 Length: 18 d methods coections, sme importance sized. Collections	ement, pump s compared to for given pipe e mains, D: 0 O min of collection oke testing, e of tion system
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components and types. Placements station function, and inflow and distribution system architecture. diameters, preferred d/D ratios, hydraulic gradeline, and causes of Instructor: Sidney Title: Collection System Inspection: This three hour cours system inspection, testing, and course dye testing, sewer balling, jetting maintaining good system records modeling and GIS concepts are into identify problems in existing processing and statements.	ent of interceptors a infiltration are disc. The following top scour at peak hour of surcharging. TU's W: 0 ection and Testing ree introduces part cleaning including: og, rodding, flushing is and maps of the controduced as they roppelines, locate sto	along natural datassed. Collectics are also cover flows, pipe made with the latest test and bucketmate collection systems are late to maintenance.	rainages, makered: minimaterials, velo I: 0.1 purposes an elevision inspachines. The mis emphasenance reconsections to the content of the c	anhole place rchitecture in the slopes for the cities in force and the cities and the citi	ement, pump is compared to for given pipe e mains, D: 0 O min of collection oke testing, e of tion system ants will learn ewer,
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Title: Pretreatment and	d the Sewer (Ordinance			Length: 180	O min
Description: Pretreatmen				our course	-	
pretreatment and pollution						
dischargers are determin	•					
especially FOG, will be dis	•		J 1	•		
setting local limits, categor						
prevention at the source.	•		•		ow an moustr	ıaı
pretreatment or hauled v		, 				T
Instructor: Sidney	TU's	W: 0	WW: 0.3	1: 0.3	C: 0.3	D: 0
Title: Collection Systen	ns Desian				Length: 90	min
Description: Overview of		system and	discusses its pr	imary com		
minimum slopes for giver						
and velocities in force ma		, profess		our at pour	11001 110W3, p	npe materials
Instructor: Josh	TU's	W:	WW: 0.15	l:	C: 0.15	D:
111311 UCTOL. 30311	103	VV.	VVVV. 0.15	1.	0.0.13	υ.
Title: Controlling Hydro	ogen Sulfide	Formation	in the Collect	ion	Length: 60	min
System	ŭ					
Description: Discussion of	f acceptable H	2S levels in	the collection s	vstem and	methods to m	itigate
formation to prevent corr	•			J		
Instructor: Josh	TU's	W:	WW: 0.1	I: 0.1	C: 0.1	D:
111311 40101 1 30311	100		******	1. 0. 1	0. 0. 1	
Title: Inflow and Infiltr	ation				Length: 60	min
Description: Detecting an		ine infiltrat	ion and exfiltrat	tion sealing	•	
point repair, root control	• .	ipo iriinti at	ion and exintra	ilon, scami	j options, care	in place
Instructor: Josh	TU's	W:	WW: 0.1	I: 0.1	C: 0.1	D:
111311 40101 . 30311	103	, vv.	VV VV. O. 1	1. 0. 1	0. 0.1	р.
Title: Inspection and To	esting				Length: 90	min
Description: Fats oils and		inspections	. Capital improv	ement dec	ision making	
Instructor: Josh	TU's	W:	WW: 0.15	I: 0.15	C: 0.15	D:
Title: Lift Stations					Length: 90	min
Description: Cyclic and sin	ngle stage desi	an operatio	on and mainten	ance of lift s		
Instructor: Josh	TU's	W:	WW: 0.15	1:	C: 0.15	D:
	1.00	1	1111110110		0.0	
Title: Manholes					Length: 60	min
Description: Invert and or	ıtlet elevation	requireme	nts manhole co	nstruction		
manholes, split flow, pipe		•			•	•
surcharging.	materials, ve		orce mains, mya	radiic grade	inic, and caus	003 01
Instructor: Josh	TU's	W:	WW: 0.15	l:	C: 0.15	D:
111311 UCTOL. JUSTI	103	VV.	VV VV. U. 13	1.	0.0.13	D.
Title: Operation and M	aintenance <i>l</i>	Activities			Length: 60	min
Description: purposes and			ustam inspactio	n tostina a		
closed circuit television in			, ,	•		•
	•	oke testing	, uye testing, se	wei balling	, jetting, rodd	iriy, nusiliriy,
and bucket machines. CC		144	14044 0 4	1.01	0.04	
Instructor: Josh	TU's	W:	WW: 0.1	I: 0.1	C: 0.1	D:

Title: Operations and Maintenance Odor Control Description: Chemical and mechanical odor control method instructor: Josh Title: Managing Sanitary Sewer Overflows (SSOs) Description: Safety, customer service, and environment remediation, and predictions. Instructor: Josh Title: Effect of Water Treatment Residuals on WM Description: The City of Boulder experimented with experiment, 30 minute talk presents the results of those experimental pretreatment permit that the WWTP issued to	thodologies. WW: 0.15 thodologies. WW: 0.1 tal impacts of the control of the WTP for the wide with the wide wi	I: I: I: Is ance Is asamples grapheir water to presents information residuals of the control	C: 0.15 Length: 60 m C: 0.1 Length: 90 m erflows. Prev C: 0.1 Length: 30 m own in their reatment pla ormation rela	nhole D: in D: in rention, D: in rock media nt. This ited to the D: 0
Description: Rehabilitation techniques including cure in replacement Instructor: Josh Title: Operations and Maintenance Odor Control Description: Chemical and mechanical odor control mellinstructor: Josh Title: Managing Sanitary Sewer Overflows (SSOs) Description: Safety, customer service, and environment remediation, and predictions. Instructor: Josh Title: Effect of Water Treatment Residuals on WM Description: The City of Boulder experimented with experickling filters to increasing concentrations of ferric resibility for the concentration of the concentration	thodologies. WW: 0.15 thodologies. WW: 0.1 tal impacts of the control of the WTP for the wide with the wide wi	I: I: I: f sanitary ov I: n samples grapheir water to presents information residuals of I: 0.05	C: 0.15 Length: 60 m C: 0.1 Length: 90 m erflows. Prev C: 0.1 Length: 30 m own in their reatment plate or mation relation	D: in D: in vention, D: in rock media nt. This ited to the D: 0
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Activity Description: Nitrifying bacteria are dependent on alkali inorganic carbon source for growth. This brief, 30 minuat the Littleton/Englewood WWTP to discover how much	on Nitrifying	g Biofilm	Length: 30 m	in
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inorganic carbon source for growth. This brief, 30 minuat the Littleton/Englewood WWTP to discover how much				
at the Littleton/Englewood WWTP to discover how much				
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lower limit of 100 mg/L as calcium carbonate alkalinity,				
			d here may si	
Instructor: Sidney TU's W: 0 V	VW: 0.05	I: 0.05	C: 0	D: 0
Title: Optimizing the TF/SC Process for Nitrification	n		Length: 30 m	in
Description: This brief presentation compares field data		the Boulde	r 75th Street	WWTP
from their trickling filter activated sludge process to a t				
model predicts nitrification in TF/SC systems which are			•	
changes in SRT from 1.8 to 2.3 days are discussed as we	ell as impacts	on their do	wnstream nit	rifying
tricking filter.	·			3 0
Instructor: Sidney TU's W: 0 V	VW: 0.05	I: 0.05	C: 0	D: 0
			•	
Title: Denitrification with Carbonaceous Trickling	Filters		Length: 30 m	in
Description: The Littleton/Englewood WWTP experime			<u> </u>	
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	imcationrati			
That dotor, didney	VW: 0.05	I: 0.05	C: 0	D: 0
the head of the treatment plant to encourage denitrification biofilms can be quite thick, but only the upper 200 microbiofilm is potentially available for denitrification. Denit samples collected at various points within the filter.	ation in the r ons are aero	oughing filt bic. The rer	ers. Carbona naining volur	ceaous ne of

Control Calculations	tric with S	pin Data: I	Accuracy of P	rocess	Length: 30) min
Description: Many operators	rely on cer	ntrifugal spir	n data for proce	ess control	ralculations	This
presentation compares side	-		•			
conclusion: centrifugal spin	, ,		•			•
guestimate solids concentrate				y characteri	stics and carn	not be asea to
Instructor: Sidney	TU's	W: 0	WW: 0.05	I: 0.05	C: 0	D: 0
instructor. Sidney	103	VV. U	VV VV. 0.03	1. 0.03	0.0	D. 0
Title: Introduction to Sma	all Water S	ystems			Length: 90	min
Description: Introduction to	Small Wate	r Systems is	based on a ch	apter from	ACRP's book	"Introduction
to Small Water Systems". To	opics include	e: A descrip	tion of water a	ind its prop	erties, the dis	stribution of
water on earth, types of wat						
Colorado water system type:	s, typical wa	ater use and	demands, how	v the hydro	logic cycle wo	orks, function
of a water system, how disea						
systems including disinfection						
basic configurations.		,		'	,	
Instructor: Sidney	TU's	W: 0.15	WW:	l:	C:	D: 0.15
Title: Microbiology for Wa	ater and D	istribution	Operators		Length: 60	min
Description: Microbiology is	based on a	chapter from	n ACRP's book	"Introducti	ion to Small V	Vater
Systems". Topics include: c	differences h	between viru	uses, bacteria,	and protoz	oans, and alg	ae. Discussio
focusses on waterbone path	ogens and t	the importar	nce of sampling	g to protect	public health	٦.
Instructor: Sidney	TU's	W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1
Title: Hydraulics					Length: 12	0 min
Description: Hydraulics is ba	sed on a ch	apter from <i>F</i>	ACRP's book "Ir	ntroduction	to Small Wa	ter Systems".
	ensity of w	ater, force a	nd nrassura vi	olocity and	flow, and has	
Topics include: weight and d	iclisity of wi	a.co.	na pressare, v	ciocity and	HOW, and bas	sic concepts
Topics include: weight and d for pumped systems includir						
for pumped systems includir						
for pumped systems includir major and minor losses.						
for pumped systems includir major and minor losses.	ng defining l	head, head l	oss, static, dyn	amic, sucti	on lift, suction	n head, and
for pumped systems includir major and minor losses. Instructor: Sidney	ng defining l	head, head l	oss, static, dyn	amic, sucti	on lift, suction	D: 0.2
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part	ng defining TU's	head, head I W: 0.2	oss, static, dyn	I: 0.2	C: 0.2 Length: 90	D: 0.2
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources F	ng defining l TU's 1 Part 1 is bas	w: 0.2 Ged on a cha	oss, static, dyn WW: 0.2 pter from ACR	I: 0.2 P's book "Ir	C: 0.2 Length: 90	D: 0.2 min Small Water
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources I Systems". Topics include: c	TU's Tu's Tart 1 is base definition of	W: 0.2 Sed on a characteristics wat	oss, static, dyn WW: 0.2 pter from ACRI ter, examples o	I: 0.2 P's book "In of surface w	C: 0.2 Length: 90 atroduction to	D: 0.2 min Small Water water
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources I Systems". Topics include: of hydrology, surface water into	TU's Tu's Tart 1 is base definition of	W: 0.2 Sed on a characteristics wat	oss, static, dyn WW: 0.2 pter from ACRI ter, examples o	I: 0.2 P's book "In of surface w	C: 0.2 Length: 90 atroduction to	D: 0.2 min Small Water water
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Topics include: of hydrology, surface water internamission lines.	TU's Tu's Tart 1 is base definition of	W: 0.2 Sed on a characteristics wat	oss, static, dyn WW: 0.2 pter from ACRI ter, examples o	I: 0.2 P's book "In of surface w	C: 0.2 Length: 90 atroduction to	D: 0.2 min Small Water water
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Topics include: c hydrology, surface water internamission lines.	TU's Tu's Tu's Tart 1 is base definition of ake structure.	W: 0.2 Sed on a charse waters, the type	ww: 0.2 pter from ACRI er, examples of pumps use	I: 0.2 P's book "In of surface wed to collect	C: 0.2 Length: 90 atroduction to yater, surface t surface wat	D: 0.2 min Small Water water er, and
for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Topics include: of hydrology, surface water inter transmission lines. Instructor: Sidney	TU's Tu's Tu's Tart 1 is based definition of ake structure Tu's	W: 0.2 Sed on a charse waters, the type	ww: 0.2 pter from ACRI er, examples of pumps use	I: 0.2 P's book "In of surface wed to collect	C: 0.2 Length: 90 atroduction to rater, surface t surface wat C:	D: 0.2 Omin O Small Water water er, and D: 0.15
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for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Topics include: c hydrology, surface water internamission lines. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Part 2 focusses or disadvantages of groundwat (permeability and porosity), c	TU's TU's Tu's Tu's Part 1 is base definition of ake structure Tu's Part 2 is basen groundwater, GWUDI'cone of dep	w: 0.2 Ged on a charge surface waters, the type W: 0.15 Ged on a charge sed	ww: 0.2 pter from ACR er, examples of pumps use ww: ww: pter from ACR nclude: Definition and the control of	I: 0.2 P's book "In of surface weed to collect I: P's book "In tion of group movement drawdown	C: 0.2 Length: 90 atroduction to vater, surface t surface wat C: Length: 90 atroduction to vater, advater, advater, advater, advater, advater, advater, advater, advater, advater, advater water	D: 0.2 min D: 0.2 min D: Small Water water er, and D: 0.15 min D: Small Water vantages and quifer level, well
Topics include: weight and d for pumped systems includir major and minor losses. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Topics include: chydrology, surface water internamission lines. Instructor: Sidney Title: Water Sources Part Description: Water Sources F Systems". Part 2 focusses or disadvantages of groundwat (permeability and porosity), colocation criteria, well compolinstructor: Sidney	TU's TU's Tu's Tu's Part 1 is base definition of ake structure Tu's Part 2 is basen groundwater, GWUDI'cone of dep	w: 0.2 Ged on a charge surface waters, the type W: 0.15 Ged on a charge sed	ww: 0.2 pter from ACR er, examples of pumps use ww: ww: pter from ACR nclude: Definition and the control of	I: 0.2 P's book "In of surface weed to collect I: P's book "In tion of group movement drawdown	C: 0.2 Length: 90 atroduction to vater, surface t surface wat C: Length: 90 atroduction to vater, advater, advater, advater, advater, advater, advater, advater, advater, advater, advater water	D: 0.2 min D: 0.2 min D: Small Water water er, and D: 0.15 min D: Small Water vantages and quifer level, well

Title: Water Treatment Part	1				Length: 1	20 min
Description: Water Treatment P	art 1 is	based on a cl	napter from	ACRP's boo	k "Introductio	n to Small
Water Systems". Topics include	e: Reaso	ns for water	treatment,	treatment g	oals, overviev	v of
conventional and direct filtration	n water	treatment (d	coagulation,	flocculation	ı, sedimentati	on, and
filtration), jar testing, and memb	orane tr	eatment plar	nts.			
Instructor: Sidney	TU's	W: 0.2	WW:	l:	C:	D: 0.2
Title: Water Treatment Part 2	2				Length: 1	20 min
Description: Water Treatment P		based on a cl	napter from	ACRP's boo	0	
Water Systems". Part 2 is focus						
goals, primary and secondary di						
chlorine gas, chlorine gas safety					•	•
of disinfecting with hypochlorite			J 1		J 1	
chloramines), advantages and d			•	•		
formation, feeding chlorine and		•		<i>3</i> .	J.	
process variables on disinfection		•	•		•	•
Instructor: Sidney	TU's	W: 0.2	WW:	l:	C:	D: 0.2
	_1			I		I
Title: Well Systems					Length: 6	0 min
Description: This sixty minute cla	ass disc	usses types o	of aquifers, r	echarge zon	es, well const	ruction, and
vell terminology including: zone	of influ	ionco cono o	£ !£I		اعتصديصا منتملما	
wen terriniology melaanig. Zonk	, o	derice, come c	oi influence,	static water	r ievei, pumpi	ng water level
drawdown, yield, and specific yi	eld. Set	tback require	ements from	community	sewer lines,	underground
drawdown, yield, and specific yi storage tanks, and other potent	eld. Set ial conta	tback require amination so	ements from urces are pr	community esented as v	sewer lines, well as the rel	underground ative merits o
drawdown, yield, and specific yi storage tanks, and other potent groundwater versus surface wat	eld. Set ial conta er sour	tback require amination so ces. Participa	ements from urces are pr ants are give	community esented as v	sewer lines, well as the rel	underground ative merits o
drawdown, yield, and specific yi storage tanks, and other potent groundwater versus surface wat monitoring rule which was prom	eld. Set ial conta er sour	tback require amination so ces. Participa	ements from urces are pr ants are give	community esented as v en an overvi	sewer lines, well as the rel ew of the nev	underground ative merits o v groundwater
drawdown, yield, and specific yi storage tanks, and other potent groundwater versus surface wat monitoring rule which was prom	eld. Set ial conta er sour	tback require amination so ces. Participa	ements from urces are pr ants are give	community esented as v	sewer lines, well as the rel	underground ative merits o
drawdown, yield, and specific yi storage tanks, and other potent groundwater versus surface wat monitoring rule which was prom	eld. Set ial conta er sour nulgated	tback require amination so ces. Participa d in January 2	ements from urces are pr ants are give 2007.	community esented as v en an overvi	sewer lines, well as the rel ew of the nev	underground ative merits o v groundwate
drawdown, yield, and specific yi storage tanks, and other potent groundwater versus surface wat monitoring rule which was prom nstructor: Sidney	eld. Sei ial conta er sour nulgated TU's	tback require amination so ces. Participa d in January 2	ements from urces are pr ants are give 2007.	community esented as v en an overvi	sewer lines, well as the rel ew of the nev	underground ative merits o v groundwate D: 0.1
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Title: Water Storage Description: This sixty minute preoutlet piping arrangements, using and tank ventilation. Both stand for ventilation screens and tank pwater quality parameters, particular linear particular linear particular linear particular linear particular linear li	g PRVs pipes a painting	and altitude and reservoir	valves to mai	ntain fill volu	•	inlet and
outlet piping arrangements, using and tank ventilation. Both stand for ventilation screens and tank p water quality parameters, particu Instructor: Sidney	g PRVs pipes a painting ularly T	and altitude and reservoir	valves to mai	ntain fill volu	•	
and tank ventilation. Both stand for ventilation screens and tank p water quality parameters, particu Instructor: Sidney	pipes a painting ularly T	and reservoir			umes and wa	ter bressure.
for ventilation screens and tank p water quality parameters, particu Instructor: Sidney	aintino ularly T		TWND Tanke ar	I!	N / - ! - +	•
water quality parameters, particu Instructor: Sidney	ılarly T	n/cleaning ar	J 1			•
Instructor: Sidney					age time and	condition on
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Title: Regulations Part 1	103	W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1
Title: Regulations Part 1					T	
					Length: 90	
Description: Regulations and Mor	nitorin	g is broken ir	ito two parts l	pecause of t	he extensive	amount of
information covered. This course	e provid	des an overvi	ew of the SD\	VA with spe	cific referenc	es to the
Colorado Regulations. Topics cov	ered ir	n part 1 inclu	de: a brief his	tory of the o	levelopment	of the
existing drinking water regulation	ns, the	major compo	onents of the	drinking wat	er regulation	ns, how the
regulations are applied to system	s of va	rious sizes, t	ne difference	between pri	mary and sec	condary
MCLs, and major groups of regula	ated co	mpounds. N	lajor rules dis	cussed in Pa	rt 1 include:	Lead and
Copper Rule, Fluoride Rule, Total	Colifor	rm Rule, Arse	enic Rule, Phas	se I/II/IIB/V I	Rules, and Gr	oundwater
Rule.						
Instructor: Sidney	TU's	W: 0.15	WW:	1:	C:	D: 0.15
		•		•	<u> </u>	<u> </u>
Title: Regulations Part 2					Length: 90	min
Description: Specific regulations	discuss	ed in Part 2 i	nclude: Surfac	ce Water Tre	atment Rule	, Filter
Backwash Recycling Rule, Long-te						
Byproducts Rules 1 and 2, and Ra						
Instructor: Sidney	TU's	W: 0.15	WW:	l:	C:	D: 0.15
Title: Lead and Copper Rule					Length: 60	min
Description: This one hour class p	resent	s need to kn	ow information	n for the Le	ad and Coppe	er Rule
including basis of regulation, hea						
procedures for field personnel. T			• •			
acute and chronic basis are prese	U					
Instructor: Sidney	TU's	W: 0.1	WW: 0	I: 0	C: 0	D: 0.1
		1				1
Title: Total Coliform Rule					Length: 60	min
Description: This one hour preser	ntation	discusses th	e Total Colifo	rm Rule inclu		
rule, definition of an indicator org						
and public notification requirement	-	i, samping re	qui omonto, i	oquii ou doti	ons for positi	ivo sampios,
Instructor: Sidney	TU's	W: 0.1	WW: 0	I: 0	C: 0	D: 0.1
man detor. Sidney	103	VV. O. 1	VVVV. O	1.0	0.0	D. 0. 1
Title: LT2ESWTR and DBPR2 R	ulos				Length: 60	min
Description: This one hour preser		introduces t	ho sistor roqu	lations dosig		
·			•	•	•	
contaminants in the water supply						
formation of harmful disinfection	٠.					along with
consuling requirements and a second as a second	ıermın	oloay Introdi	ucea in stage 1	lwo such as i	ıne LKAA.	
sampling requirements and new Instructor: Sidney	TU's	W: 0.1	WW: 0.05	I: 0.05	C: 0	D: 0.1

Title: Water Treatmen	t Sources				Length: 6	50 min
Description: This 60 mine water, groundwater, and be discussed. Sourcewat biological, radiological, a acre ft and demand, and	d reclaimed wat er selection and and chemical ch	ter. Physical d protection aracteristics	impoundme will include of potentia	ents, reservo e sanitary sui	oirs, and intak rvey informat	e structures will ion, physical,
Instructor: Josh	TU's	W: 0.1	WW:	l:	C:	D: 0.1
					T	
Title: Coagulation					Length: 6	
Description: This 60 minu (methods and types of m saturation conditions, flo	nixers), coagula	tion basins.	Attendants	will learn ab	out optimum	,
Instructor: Josh	TU's	W: 0.1	WW:	l:	C:	D: 0.1
Title: Flees: Jetier					Longth	00 min
Title: Flocculation		<u> </u>		1 66	Length: 9	
Description: This 90 minumath of flocculation, including will also cover performing	luding detentio		•		0.1	0.
Instructor: Josh	TU's	W: 0.15	WW:	l:	C:	D: 0.15
Instructor: Josh	10 3	VV. O. 10				
	103	10.0.10				
Title: Sedimentation Description: This 60 minu	ute course will (cover sedim			J 1	d processes, and
Title: Sedimentation	ute course will o tion, including c characterization	cover sedim detention ti on, effluent	mes, basin v NTU's and fi ed.	olume calcu	asin types, and lations, settli dicators and s	d processes, and ng times, and
Title: Sedimentation Description: This 60 minutes basic math of sedimental weir overflow rates. Floor	ute course will o tion, including c characterization	cover sedim detention ti on, effluent	mes, basin v NTU's and fi	olume calcu	asin types, and lations, settli	d processes, and ng times, and
Title: Sedimentation Description: This 60 minutes basic math of sedimental weir overflow rates. Flootechniques and removal Instructor: Josh	ute course will on, including on the course will on the course will also systems will also TU's	cover sedim detention ti on, effluent so be covere	mes, basin v NTU's and fi ed.	volume calcu Ilterability in	asin types, and lations, settli dicators and s	d processes, and ng times, and sludge handling D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal	ute course will of tion, including of the characterization systems will also TU's Regulations ute course will of the course wi	cover sedim detention ti on, effluent so be covere W: 0.1	mes, basin v NTU's and fi ed. WW:	volume calcu ilterability in	asin types, and allations, settlindicators and settlindicators.	d processes, and ng times, and sludge handling D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes and minutes are sedimentations.	ute course will of tion, including of the characterization systems will also TU's Regulations ute course will of the course wi	cover sedim detention ti on, effluent so be covere W: 0.1	mes, basin v NTU's and fi ed. WW:	volume calcu ilterability in	asin types, and allations, settlindicators and settlindicators.	d processes, and ng times, and sludge handling D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh	ute course will of tion, including of the course will also systems will also TU's Regulations ute course will of Rule, and ESWT	cover sedim detention ti on, effluent so be covere W: 0.1 cover the CI	mes, basin v NTU's and fi ed. WW:	volume calcu ilterability in I: ry Drinking V	c: C: Length: 6	d processes, and sludge handling D: 0.1 00 min cluding the new D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh Title: Instrumentation	ute course will of tion, including of characterization systems will also a TU's Regulations of the course will of the course w	cover sedim detention ti on, effluent so be covere W: 0.1 cover the CI TR. W: 0.1	mes, basin v NTU's and fi ed. WW: DPHE Priman	volume calcu ilterability in I: ry Drinking V	C: Length: 6 C: Length: 6 Length: 6	d processes, and sludge handling D: 0.1 50 min cluding the new D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh Title: Instrumentation Description: This 60 minutes including SCADA, Remoti	ute course will of tion, including of the characterization systems will also a TU's Regulations ute course will of TU's TU's and Control ute course will of the co	cover sediment detention to the cover sediment on, effluent so be covered W: 0.1 cover the CIFR. W: 0.1 cover basic semetry, and	mes, basin v NTU's and fi ed. WW: DPHE Primat WW: remote mor operations	ry Drinking V	C: Length: 6	d processes, and sludge handling D: 0.1 00 min cluding the new D: 0.1 60 min echnologies, also dover basic
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh Title: Instrumentation Description: This 60 minutes including SCADA, Remotinstrumentation, including instructor, including inclu	ute course will of tion, including of characterizations will also a TU's Regulations ute course will of TU's TU's and Control ute course will of the course will of the course will of the took and the course will of the took and the course will of the took and th	cover sedimedetention to the cover sedimedetention to the cover sedimedete to	mes, basin values, basin value	ry Drinking V	C: Length: 6	d processes, and sludge handling D: 0.1 00 min cluding the new D: 0.1 60 min echnologies, also dover basic
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh Title: Instrumentation Description: This 60 minutes including SCADA, Remoting Instrumentation, including equipment, and basic on	ute course will of tion, including of characterizations will also a TU's Regulations ute course will of TU's TU's And Control ute course will of the course will of the course will of the top the	cover sedimedetention to the cover sedimedetention to the cover sedimedetent to the cover sedime	mes, basin values, basin value	ry Drinking V I: I: I: Iterability in I: Ty Drinking V I: Iteration of the control of th	C: Length: 6 Length: 6 Length: 6 Length: 6 Length: 6 Automation to tegies. It will a flow measure	d processes, and and times, and sludge handling D: 0.1 D: 0.1 D: 0.1 D: 0.1 O min cluding the new D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh Title: Instrumentation Description: This 60 minutes including SCADA, Remotinstrumentation, including instructor, including inclu	ute course will of tion, including of characterizations will also a TU's Regulations ute course will of TU's TU's and Control ute course will of the course will of the course will of the took and the course will of the took and the course will of the took and th	cover sedimedetention to the cover sedimedetention to the cover sedimedete to	mes, basin values, basin value	ry Drinking V	C: Length: 6	d processes, and sludge handling D: 0.1 00 min cluding the new D: 0.1 60 min echnologies, also dover basic
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water Instructor: Josh Title: Instrumentation Description: This 60 minutes from the second minutes of	ute course will of tion, including of characterizations will also a TU's Regulations ute course will of TU's TU's and Control ute course will of the course will of the course will of the tourse will o	cover sedimedetention to the cover sedimedetention to the cover sedimedetent to the cover sedime	mes, basin values, basin value	ry Drinking V I: I: I: Iterability in I: Ty Drinking V I: Iteration of the control of th	C: Length: 6 Length: 6 Length: 6 Length: 6 Length: 6 Automation to tegies. It will a flow measure	D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water I Description: This 60 minutes Groundwater Rule, DBP Instructor: Josh Title: Instrumentation Description: This 60 minutes including SCADA, Remoting Instrumentation, including equipment, and basic on	ute course will of tion, including of characterizations will also a TU's Regulations ute course will of TU's TU's and Control ute course will of the course will o	cover sediment detention to the cover sediment on, effluent so be covered with 0.1 cover the CIFR. W: 0.1 cover basic lemetry, and itches, level lity instrument with 0.1 cover tools are cover tools are cover tools are cover tools are covered with the cover tools are covered with the covered win the covered with the covered with the covered with the covered	mes, basin values, basin value	ry Drinking V I: Ty Drinking V I: nitoring and a control stratequipment, I: 0.1	C: Length: 6 Length:	d processes, and and times, and sludge handling D: 0.1 00 min cluding the new D: 0.1 60 min echnologies, also dover basic ement D: 0.1
Title: Sedimentation Description: This 60 minutes basic math of sedimentation weir overflow rates. Flootechniques and removal Instructor: Josh Title: Drinking Water Instructor: Josh Title: Instrumentation Description: This 60 minutes for minutes of	ute course will of tion, including of characterizations will also and Eswith Tu's Regulations ute course will of Tu's and Control ute course will of the Elo, Radio, Telong pressure swilline water qual Tu's erations ute course will of the Using pressure swill of the Using data	cover sediment detention to the cover sediment on, effluent so be covered w: 0.1 cover the CIFR. W: 0.1 cover basic emetry, and itches, level lity instrumed w: 0.1 cover tools a and trends	mes, basin values, basin value	ry Drinking V I: I: Ty Drinking V I: nitoring and control stratequipment, I: 0.1	C: Length: 6 Length:	d processes, and and times, and sludge handling D: 0.1 00 min cluding the new D: 0.1 60 min echnologies, also dover basic ement D: 0.1

Title: Taste and Odors					Length: 60	וווווו ל
Description: This 60 minu	ute course will	focus on cor	ntrolling and p	reventing t	aste and odor	indicators
and causes in source wat				•		
prevention and treatmer					•	
service, customer notific						
Instructor: Josh	TU's		WW:	1:	C:	D: 0.1
111311 401011 30311	103	**. 0.1	*****		0.	D. 0. 1
Title: Water Lab Proce	dures				Length: 90) min
		aver basia w	atar labaratan	v procedur	Ū	
Description: This 90 minu						
system math, basic chem				, ,	•	
QA/AC will be discussed,						
covered, including titrati		_				
Instructor: Josh	TU's	W: 0.15	WW:	l:	C:	D: 0.15
					1, ,, ,,	<u> </u>
Title: Advanced Water					Length: 90	
Description: This 90 minu			ced water tre	atment tecl	hnologies, inc	luding ion
exchange, membranes, l			T	_		
Instructor: Josh	TU's	W: 0.15	WW:	l:	C:	D: 0.15
Title: Pumps and Moto	orc				Length: 60) min
Title. Fullips and Moti) i 2				Longtii. ot	
Description: This 60 min		cover differe	ent types of p	umps and n	Ū	
	ute course will				notors and wi	II include
Description: This 60 minu	ute course will				notors and wi	II include
Description: This 60 minutypical uses. Basic pump	ute course will				notors and wi	II include
Description: This 60 minutypical uses. Basic pump be discussed.	ute course will curves, horsep	ower calcula	ations, basic h	ydraulics, a	notors and will nd pressure c	II include onversions wi
Description: This 60 minutypical uses. Basic pump be discussed.	ute course will curves, horsep	ower calcula	ations, basic h	ydraulics, a	notors and will nd pressure c	Il include onversions wi D: 0.1
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance	ute course will curves, horsep TU's	oower calcula	ations, basic h	ydraulics, a	notors and will not pressure c C: 0.1 Length: 60	Il include onversions wi D: 0.1
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine	ute course will curves, horsep TU's	W: 0.1	WW: 0.1	ydraulics, a	notors and will nd pressure c C: 0.1 Length: 60 orrective main	Il include onversions wi D: 0.1 O min ontenance
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine strategies. It will address	ute course will curves, horsep TU's ute course will maintaining e	W: 0.1 cover predicted to the cover of the	WW: 0.1	I: 0.1 ative, and coanical equi	C: 0.1 Length: 60 orrective main pment (gener	Il include onversions wi D: 0.1 Dimin ntenance al pump
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine strategies. It will address maintenance including leading to the strategies.	ute course will curves, horsep TU's ute course will a maintaining e subrication and	W: 0.1 Cover prediction lectrical equipmpellers,) c	WW: 0.1 ctive, preventa ipment, mechompressors, v	I: 0.1 ative, and containing alves, and I	C: 0.1 Length: 60 corrective mair pment (gener coasic engine n	Il include onversions wi D: 0.1 D min ntenance al pump naintenance.
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine strategies. It will address	ute course will curves, horsep TU's ute course will maintaining e	W: 0.1 cover predicted to the cover of the	WW: 0.1	I: 0.1 ative, and coanical equi	C: 0.1 Length: 60 orrective main pment (gener	Il include onversions wi D: 0.1 Dimin ntenance al pump
Description: This 60 minitypical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 minitstrategies. It will address maintenance including lunstructor: Josh	ute course will curves, horsep TU's ute course will a maintaining e subrication and	W: 0.1 Cover prediction lectrical equipmpellers,) c	WW: 0.1 ctive, preventa ipment, mechompressors, v	I: 0.1 ative, and containing alves, and I	C: 0.1 Length: 60 Directive main pment (gener pasic engine n C: 0.1	D: 0.1 O min ntenance al pump naintenance. D: 0.1
Description: This 60 minitypical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 ministrategies. It will address maintenance including lunstructor: Josh Title: Filtration	ute course will curves, horsep TU's ute course will a maintaining e subrication and TU's	w: 0.1 cover prediction lectrical equipmellers,) c W: 0.1	www: 0.1 ctive, preventa ipment, mechompressors, v	I: 0.1 ative, and containing alves, and I: 0.1	C: 0.1 Length: 60 Dorrective main pment (gener pasic engine n C: 0.1 Length: 90 Length: 90	D: 0.1 O min ntenance al pump naintenance. D: 0.1
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine strategies. It will address maintenance including lunstructor: Josh Title: Filtration Description: This 90 mine	ute course will curves, horsep TU's ute course will smaintaining e ubrication and TU's	w: 0.1 cover prediction lectrical equimpellers,) cover types	tive, preventa ipment, mechompressors, v	I: 0.1 ative, and coanical equivalves, and be aliced.	C: 0.1 Length: 60 orrective mair pment (gener pasic engine n	D: 0.1 O min ntenance al pump naintenance. D: 0.1
Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine strategies. It will address maintenance including lunstructor: Josh Title: Filtration Description: This 90 mine including backwashing and including b	ute course will curves, horsep TU's ute course will a maintaining e ubrication and TU's ute course will nd surface was	W: 0.1 cover prediction in the cover types whing technic	www: 0.1 ctive, preventa ipment, mechompressors, values. Filtration	I: 0.1 ative, and containing alves, and I is 0.1 I: 0.1	C: 0.1 Length: 60 Description of the contraction	D: 0.1 O min ntenance al pump naintenance. D: 0.1
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Description: This 60 mine typical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 mine strategies. It will address maintenance including lunstructor: Josh Title: Filtration Description: This 90 mine including backwashing a processes, including sluddiscussed. Particle count	ute course will curves, horsep TU's ute course will maintaining equipartation and Tu's ute course will and surface was lige lagoons, see ers and Turbid	cover prediction with the cover types cover types thing technical dimentation ity measures	www: 0.1 www: 0.1 ctive, preventations, mechompressors, value www: 0.1 of filters, typeques. Filtration effluent weirs ments for performents for performent	I: 0.1 ative, and contained equivalves, and because of mediase interactions, and polisiformance in	C: 0.1 Length: 60 orrective mair pment (gener pasic engine n	D: 0.1 O min ntenance al pump naintenance. D: 0.1
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Description: This 60 minitypical uses. Basic pump be discussed. Instructor: Josh Title: Maintenance Description: This 60 minitstrategies. It will address maintenance including lunstructor: Josh Title: Filtration Description: This 90 minitincluding backwashing a processes, including sluddiscussed. Particle count documentation, and other	ute course will curves, horsep TU's ute course will maintaining equipartation and Tu's ute course will and surface was lige lagoons, see ers and Turbid	cover prediction with the cover types cover types thing technical dimentation ity measures	www: 0.1 www: 0.1 ctive, preventations, mechompressors, value www: 0.1 of filters, typeques. Filtration effluent weirs ments for performents for performent	I: 0.1 ative, and contained equivalves, and become an interaction s, and polisiformance in	C: 0.1 Length: 60 orrective mair pment (gener pasic engine n	D: 0.1 O min ntenance al pump naintenance. D: 0.1 O min perations, treatment I also be
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Title: Operations Safety					Length: 90	min
Description: This 90 minute	course will	cover basic	operations safe	ety, and will	include emer	rgency
response, fire safety, vehicl						
response.		,	•			
Instructor: Josh	TU's	W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15
	L					
Title: Alternate Treatme	nt Technolo	ogies			Length: 90	min
Description: Students will le	earn about n	on conventi	onal treatment	t methods,	including Diss	olved Air
Flotation and Biological Filt						
including residuals manage	ment				·	·
Instructor: Josh	TU's	W: 0.15	WW: 0.15	1:	C:	D: 0.15
			•			
Title: Ion Exchange					Length: 60	min
Description: Ion Exchange of	perations ar	nd maintena	nce, selecting	resins, rech	arge and rege	eneration
techniques, loading, residua	als managen	nent will be	covered			
Instructor: Josh	TU's	W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1
Title: Membranes					Length: 90	min
Description: Students will b	e expoesed	to the desig	n, operation ar	nd maintena	ance of all me	mbrane
types, RO, Nano, Ultra, Mic						
management will also be co	overed.	Ū				
Instructor: Josh	TU's	W: 0.15	WW: 0.15	l:	C:	D:
Title: Distribution System	n Design an	d Adminis	tration		Length: 90	min
Description, Deputation Fir	- Flow Tank	and Bufferi	ng Considerati	ons	•	
Description: Population, Fir	CITOW, Talik					
Instructor: Josh	TU's	W: 0.15	WW:	1:	C:	D: 0.15
		W: 0.15	WW:	l:	C:	D: 0.15
Instructor: Josh	TU's		WW:	l:	C: Length: 90	
Instructor: Josh Title: Distribution System	TU's	nps			Length: 90	min
Instructor: Josh Title: Distribution System Description: Pumping Theo	TU's	nps			Length: 90	min
Instructor: Josh Title: Distribution System	TU's	nps			Length: 90	min
Instructor: Josh Title: Distribution System Description: Pumping Theo pumping systems	TU's n O&M Pur ry, Part diag	nps rams and ide	entification of F	Positive disp	Length: 90 blacement and	min d centrifugal
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh	n O&M Pur ry, Part diag	nps rams and ide W: 0.15	entification of F	Positive disp	Length: 90 blacement and	min d centrifugal D: 0.15
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar	n O&M Pur ry, Part diago TU's	nps rams and ide W: 0.15	entification of F	Positive disp	Length: 90 placement and C: 0.15	min d centrifugal D: 0.15
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi	n O&M Pur ry, Part diago TU's	nps rams and ide W: 0.15	entification of F	Positive disp	Length: 90 placement and C: 0.15	min d centrifugal D: 0.15
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar	n O&M Pur ry, Part diago TU's	nps rams and ide W: 0.15	entification of F	Positive disp	Length: 90 placement and C: 0.15	min d centrifugal D: 0.15
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design.	n O&M Pur ry, Part diago TU's nd Water M ping materia	nps rams and ide W: 0.15 lains Ils and chara	entification of F WW: 0.15 cteristics for co	Positive disp	Length: 90 Dlacement and C: 0.15 Length: 60 n in repair and	min d centrifugal D: 0.15 min
Instructor: Josh Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh	TU's n O&M Pur ry, Part diago TU's nd Water M ping materia TU's	nps rams and ide W: 0.15 lains Ils and chara	entification of F WW: 0.15 cteristics for co	Positive disp	Length: 90 Dlacement and C: 0.15 Length: 60 n in repair and	min d centrifugal D: 0.15 min d D: 0.1
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh Title: Meters and Service	TU's n O&M Pun ry, Part diago TU's nd Water M ping materia TU's	nps rams and ide W: 0.15 lains Ils and chara	entification of F WW: 0.15 cteristics for co	Positive disp	Length: 90 clacement and C: 0.15 Length: 60 n in repair and C: 0.1 Length: 60	min d centrifugal D: 0.15 min d D: 0.1
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh Title: Meters and Service Description: Service connections	TU's n O&M Pun ry, Part diago TU's nd Water M ping materia TU's	nps rams and ide W: 0.15 lains Ils and chara	entification of F WW: 0.15 cteristics for co	Positive disp	Length: 90 clacement and C: 0.15 Length: 60 n in repair and C: 0.1 Length: 60	min d centrifugal D: 0.15 min d D: 0.1
Instructor: Josh Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh	TU's n O&M Pur ry, Part diagr TU's nd Water M ping materia TU's Lines ctions, meter	mps rams and ide W: 0.15 lains Ils and chara W: 0.1	entification of F WW: 0.15 cteristics for co WW: instalation and	Positive dispositive dispositi	Length: 90 Dlacement and C: 0.15 Length: 60 n in repair and C: 0.1 Length: 60 dervice lines	min d centrifugal D: 0.15 min d D: 0.1
Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh Title: Meters and Service Description: Service connect Instructor: Josh	TU's n O&M Pun ry, Part diagr TU's nd Water M ping materia TU's Lines ttions, meter TU's	mps rams and ide W: 0.15 lains Ils and chara W: 0.1	entification of F WW: 0.15 cteristics for co WW: instalation and	Positive dispositive dispositi	Length: 90 Dlacement and C: 0.15 Length: 60 n in repair and C: 0.1 Length: 60 dervice lines	min d centrifugal D: 0.15 min d D: 0.1 D: 0.1
Instructor: Josh Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh Title: Meters and Service Description: Service connect Instructor: Josh Title: Distribution System	TU's n O&M Pur ry, Part diagr TU's nd Water M ping materia TU's Lines ctions, meter TU's	mps rams and ide W: 0.15 lains Ils and chara W: 0.1 ring devices, W: in Breaks	entification of F WW: 0.15 cteristics for co WW: instalation and	Positive dispositive dispositi	Length: 90 placement and C: 0.15 Length: 60 n in repair and C: 0.1 Length: 60 service lines C:	min d centrifugal D: 0.15 min d D: 0.1 D: 0.1
Instructor: Josh Title: Distribution System Description: Pumping Theo pumping systems Instructor: Josh Title: Piping Materials ar Description: Distribution pi replacements, new design. Instructor: Josh Title: Meters and Service Description: Service connect Instructor: Josh	TU's n O&M Pur ry, Part diagr TU's nd Water M ping materia TU's Lines ctions, meter TU's	mps rams and ide W: 0.15 lains Ils and chara W: 0.1 ring devices, W: in Breaks	entification of F WW: 0.15 cteristics for co WW: instalation and	Positive dispositive dispositi	Length: 90 placement and C: 0.15 Length: 60 n in repair and C: 0.1 Length: 60 service lines C:	min d centrifugal D: 0.15 min d D: 0.1 D: 0.1

Title: GIS and AMS						Length: 60 min	
Description: Mapping and Asse			<u> </u>	ıes			
Instructor: Josh	TU's	W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1	
Title: Fire Hydrants					Length: 60	min	
Description: Fire hydrant types	1 0						
Instructor: Josh	TU's	W: 0.1	WW:		C:	D: 0.1	
ITISTI UCTOL. JOSH	103	VV. U. I	VV VV.	1.	C.	D. 0. I	
Title: Water Quality/DBPs	Length: 90 min						
Description: Reducing water ag		•	•			lorine, IDSE's,	
max residence times, controllin	g nitrific	ation, remov	ing TOC with	enhanced co	pagulation.		
Instructor: Josh	TU's	W: 0.15	WW:	l:	C:	D: 0.15	
Title: Cross Connection					Length: 60	min	
Description: Overview of a prop	•						
Instructor: Josh	TU's	W: 0.1	WW: 0.1	I: 0.1	C: 0.1	D: 0.1	
	1	1	1	11.011	1 2. 2		
Title: Distribution System Re		Length: 240 min					
Description: 4 hour class featur	ing the L	ead and Cop	per Rule, Disii	nfection By F	Products, Tota	al Coliform	
Rule, and a hands on chlorine s	ampling	and residual	measuremen	t excersize.			
Instructor: Josh	TU's	W: 0.35	WW:	l:	C:	D: 0.35	
T'II. DDDI.					L a re mille . OO		
Title: DBP's					Length: 90		
Description: Controlling DBP's i Operatinal strategies, and control							
best operational practices for re						,	
Instructor: Josh	TU's	W: 0.15	WW:	I:	C:	D: 0.15	
			•	•	•	•	
Title: Distribution Storage						Length: 90 min	
Description: Balancing system s conditions. Analysis of annyual	-			n time, wate	r quality, and	emergency	
Instructor: Josh			WW:	l:	C:	D: 0.15	
mistractor. Josh	103	VV. 0.15	VVVV.	11.	0.	D. 0.13	
Title: Distribution System Management and Administration						Length: 60 min	
Description: Resource allocation					•		
Instructor: Josh	TU's	W: 0.15	WW: 0.15	I: 0.15	C: 0.15	D: 0.15	
Title District the Contract					Longeth, 75		
Title: Distribution System Operation and Maintenance Description: Scheduled Maintenance Activities Pump operation and maintene						Length: 75 min	
				d madintono	anaa traubla		
Description: Scheduled Mainter	nance Ad	tivities Pump	operation ar			shooting	
				nd maintene I:	ance, trouble C:		
Description: Scheduled Mainter Instructor: Josh	nance Ad TU's	tivities Pump W: 0.15	operation ar		C:	shooting D: 0.15	
Description: Scheduled Mainter Instructor: Josh Title: Distribution System Operation System System System System Operation System	TU's	tivities Pump W: 0.15	o operation ar WW:	l:		shooting D: 0.15	
Description: Scheduled Mainter Instructor: Josh	TU's	tivities Pump W: 0.15	o operation ar WW:	l:	C:	shooting D: 0.15	

Title: Distribution System Wa	Length: 60 min							
Description: Nitrification, DBP's,	Taste a	nd Odor, Dirt	y Water	•				
Instructor: Josh	TU's	W: 0.1	WW:	l:	C:	D: 0.1		
Title: Flushing for Water Qual		Length: 60 min						
Description: Unidirectional and Annual system flushing techniques								
Instructor: Josh	TU's	W:	WW:	1:	C:	D: 0.1		
				•		•		
Title: Lead and Copper Rule		Length: 60 min						
Description: Overview and comp optimization	liance v	vith Stage 2 [DBP rule. Distr	ibutino syst	em BMP's and			
Instructor: Josh	TU's	W: 0.1	WW:	l:	C:	D: 0.1		
Title: Total Coliform Rule		Length: 60 min						
Description: Overview and comp	liance v	with TCR. Dis	tribution syste	m BMP's an	<u>d optimizatio</u>	<u>1</u>		
Instructor: Josh	TU's	W: 0.1	WW:	1:	C:	D: 0.1		
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