

Office of Water Programs Online Course Time Assignment

This course time assignment outlines the components of an online distance learning training course offered by OWP for continuing education units (CEUs) or contact hours.

Title of course: Preliminary and Primary Treatment (WAT601A)

Related training material title: "Operation of Wastewater Treatment Plants," Eighth Edition

CEUs/Contact hours: 3.0 CEUs/30 contact hours

Course Outline: Preliminary and Primary Treatment (Based on Chapters 3 and 4 OWTP1 8thED)

Preliminary treatment goals	Grit removal devices
Preliminary treatment processes	Settling theory and flow velocities
Safety hazards	Grit processing and disposal
Preaeration purposes and operations	Operations and maintenance practices
Emergency storage basin purposes and operations	Safety issues
Area, velocity, and flow concepts	Reviewing plans and specifications
Principles of flow meter operations	Clarifier treatment principles
Operating and maintaining meters and sensors	Clarifier physical components
Velocity and flow rate	Effects of different conditions on process performance
Bar screen and rack components and operations	Process control tests
Screenings characteristics and disposal	Normal operating procedures
Grinder and comminutor components and operations	Abnormal operations and troubleshooting
Grit characteristics	Math Assignment
Safety practices and equipment	Additional Resources

Average word count: 520 words per page

Average reading speed: 130 words per minute; 4 minutes per page

The course is based on Chapters 3 and 4, "Preliminary and Primary Treatment" and other sections from the related training manual. The course contains video, text, tables, graphs, illustrations, math example problems, and chapter review questions to enhance the presentation of information and the student learning experience. The course is designed for students to spend the same amount of time reading the text, tables, graphs, and illustrations as they spend reading the equivalent amount of related course material presented on screen.

Number of Web screens (internal): The course contains 85 web system screens.

Web screens consist of 79 content screens, 5 lesson quiz screens, and 1 final exam screen.

Average reading speed: 1 minute per screen

The web screens function as the "instructor" for the course, providing topic introduction, video clips, reading assignments, interactive student exercises, quizzes, and a final exam.

Number of Interactive exercises: The course contains a total of 5 interactive exercises.

Average interactive exercise answer speed: 3 minutes per interactive exercise

Number of math example exercises: The course contains 179 wastewater system math example exercises that support and expand the concepts presented in the online course text.

Average math example exercise answer speed: 3 minutes per math exercise

Number of chapter review questions: The course contains 71 review questions in the “Check your understanding” section at the end of each topic. Question types are best answer and fill-in.

Average chapter review question/answer speed: 2 minutes per question

Number of minutes of video: The course contains 100.2 minutes of video. Students are projected to watch two viewings.

Average video viewing time: 2 minutes

Number of flashcards: The course contains 50 flashcards. Students are projected to view them once.

Average viewing time: 1 minute

Number of lesson quiz questions: The course contains 50 end of lesson quiz questions. Question types include best answer (one correct answer) and math (requiring students to work through equations to find solutions).

Average lesson quiz question / answer speed: 3 minutes

Final exam: The course contains 50 final exam questions. Question types include best answer (one correct answer) and math (requiring students to work through equations to find solutions).

Average final exam question/answer speed: 3 minutes per final exam question

The table summarizes the course components outlined above and shows the calculations for the total time assignment values in minutes and hours.

Course component	Number of component units	Minutes required to complete component units			Total time assignment for component
Text pages	92	x	4	=	368
Web screens	85	x	1	=	85
Interactive exercises	5	x	3	=	15
Math example exercises	179	x	3	=	537
Chapter review questions	71	x	2	=	142
Videos (minutes)	100.2	x	2	=	200.4
Final exam questions	50	x	3	=	150
Video review questions	50	x	2	=	100

Lesson quiz	50	x	3	150
questions				
Flashcard pages	50	x	1	50
				1797 minutes
				29.95 hours
				3.0 CEUs