



## **PATHFINDER:**

### **WATER ENGINEERING**

#### **Scope Note**

Water engineering encompasses the design, construction, and management of water-related infrastructure and systems, including but not limited to dams, reservoirs, canals, pipelines, water treatment plants, and flood control measures. It involves the application of engineering principles to ensure the efficient and sustainable utilization, distribution, and conservation of water resources for various purposes such as drinking water supply, irrigation, hydroelectric power generation, industrial processes, and environmental protection.

Key Term	:	Water Engineering
USE	:	Civil Engineering Hydraulic Engineering Hydrology
USE FOR	:	Water resource management Water infrastructure development Water system design
Broader Term	:	Civil Engineering

#### **PRINT RESOURCES (c. 2011-2024)**

#### **BOOKS**

Abbasi, T. (2012). *Water quality indices*. Elsevier.  
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Benjamin, M. M. (2013). *Water quality engineering: physical/chemical treatment processes*. John Wiley & Sons.  
**[628.166 B43]**

Chandrappa, R. (2014). *Sustainable and water engineering: theory and practice*. John Wiley & Sons, Inc.

**[628.10286 C36]**

Chin, D. A. (2013). *Water-resources engineering*. (3rd ed.). Pearson.

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Chin, D. A. (2013). *Water-quality engineering in natural systems: fate and transport processes in the water environment*. (2nd ed.). Wiley.

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Davis, M. L. (2011). *Water and wastewater engineering: design principles and practice*. McGraw-Hill.

**[628.1 D29]**

Dixon, B. (2016). *GIS and geocomputation for water resource science and engineering*. AGU, Wiley.

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Shammas, N. K. (2016). *Water engineering: hydraulics, distribution, and treatment*. (1st ed.). Wiley.

**[363.61 Sh17]**

Singh, V. P. (2013). *Entropy theory and its application in environmental and water engineering*. John Wiley & Sons Inc.

**[627.0153673 Si64]**

Upadhyay, A.K. (2018). *Water supply and waste water engineering*. S.K. Kataria & Sons.

**[628.1 Up12]**

## **THESIS**

Alivio, V. J. (2012). *Evaluation of the Efficiency of Water Distribution System in the University of San Carlos - Talamban Campus*. University of San Carlos.

**[T / A148v]**

Daclan, Z. M. (2015). *Drainage Routes for the Excess Water of the Ponds in the Cabancalan Sinkhole Area*. University of San Carlos.

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## ELECTRONIC RESOURCES (c. 2011-2024)

### **EBOOKS**

Benjamin, M. M. (2013). *Water quality engineering: Physical / chemical treatment processes*. John Wiley & Sons, Incorporated. <https://www.proquest.com/legacydocview/EBC/7103903?accountid=50192>

Chandrappa, R. & Das, D. B. (2014). *Sustainable water engineering: theory and practice*. John Wiley & Sons, Ltd. DOI:10.1002/9781118541036

Hüttl, R. F., Bens, O., Bismuth, C., & Hoehstetter, S. (Eds.). (2015). *Society - water - technology : A critical appraisal of major water engineering projects*. Springer International Publishing AG. <https://www.proquest.com/legacydocview/EBC/6422712?accountid=50192>

Saini, D. (2018). *Practical Problem with Solution in Waste Water Engineering 6 Vols. (Set)*. Astral International Pvt Ltd. <https://ezproxy.usc.edu.ph/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=2631753&site=ehost-live>

Shammas, N. K. (2015). *Water engineering: Hydraulics, distribution and treatment*. John Wiley & Sons, Incorporated. <https://www.proquest.com/legacydocview/EBC/7104368?accountid=50192>

Singh, V. P. (2013). *Entropy theory and its application in environmental and water engineering*. John Wiley & Sons, Ltd. DOI:10.1002/9781118428306.

Torres, D. P. (2011). *Water Engineering*. Nova Science Publishers, Inc. <https://ezproxy.usc.edu.ph/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=535161&site=ehost-live>

### **JOURNALS**

Meng, Z., Cheng-Qi, Z., Qi, F., Ju-Tao, Z., Wei, L., Ling-Ge, W., Yuan-Yuan, X., & Ying-Qing, S. (2024). Environmental change induced by water engineering development dominates the global watershed sustainable development issues. *Frontiers in Environmental Science*, <https://doi.org/10.3389/fenvs.2023.1322308>

Austin D.C. Miller, Chowdhury, S. P., Hanson, H. W., Linderman, S. K., Ghasemi, H. I., Miller, W. D., Morrissey, M. A., Richardson, C. D., Gardner, B. M., & Mukherjee, A. (2024). Engineering water exchange is a safe and effective method for magnetic resonance

imaging in diverse cell types. *Journal of Biological Engineering*, 18, 1-14.  
<https://doi.org/10.1186/s13036-024-00424-5>

Sun, K., Wu, X., Zhuang, Z., Liu, L., Fang, J., Zeng, L., Ma, J., Liu, S., Li, J., Dai, R., Tan, X., Yu, K., Liu, D., Cheong, W., Huang, A., Liu, Y., Pan, Y., Xiao, H., & Chen, C. (2022). Interfacial water engineering boosts neutral water reduction. *Nature Communications*, 13(1), <https://doi.org/10.1038/s41467-022-33984-5>

Ding, Z., Liu, X., Xue, Z., & Li, X. (2023). Expert Opinion on the Key Influencing Factors of Cost Control for Water Engineering Contractors. *Sustainability*, 15(8), 6963.  
<https://doi.org/10.3390/su15086963>

### **DISSERTATIONS & THESES**

Fan, X. (2024). *Artificial Intelligence Aided Resilient and Sustainable Water Infrastructure Systems* (Order No. 31180742). Available from ProQuest One Academic. (2934169765).  
<http://ezproxy.usc.edu.ph/login?url=https://www.proquest.com/dissertations-theses/artificial-intelligence-aided-resilient/docview/2934169765/se-2>

Hair, K. M. (2024). *Investigating a Small Water Treatment Plant's Water Chemistry and Source Water Blending Capabilities* (Order No. 31147366). Available from ProQuest One Academic. (3054277872). <http://ezproxy.usc.edu.ph/login?url=https://www.proquest.com/dissertations-theses/investigating-small-water-treatment-plant-s/docview/3054277872/se-2>

Kumkum, P. (2024). *Biochar for Heavy Metal Removal in Water: Opportunities, Challenges, and Sustainable Solutions* (Order No. 31235659). Available from ProQuest One Academic. (3061946931). <http://ezproxy.usc.edu.ph/login?url=https://www.proquest.com/dissertations-theses/biochar-heavy-metal-removal-water-opportunities/docview/3061946931/se-2>

### **SUBSCRIBED ONLINE DATABASES**

(Access through [www.library.usc.edu.ph/ezproxy](http://www.library.usc.edu.ph/ezproxy) or <https://login.usclibrary.idm.oclc.org/login>)

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Contain the current list of accessible titles to the library users of the Consortium of Engineering Libraries – Philippines (CELPh) member institutions classified into subject categories & content types.

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If you have any inquiries, comments and suggestions on this pathfinder, please email us at [libdirector@usc.edu.ph](mailto:libdirector@usc.edu.ph)

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Date: June 2024