
CONCEPTS OF WATERSHED HYDROLOGY

<< Making the world a better place by understanding science >>

If you use the word “watershed,” you will be interested in a very affordable animated and narrated short course entitled “Concepts of Watershed Hydrology.” **Its purpose is to put the hydrology in watershed management.** The course may be used independently, for it is completely autotutorial and may be picked up for immediate use by anyone. This material is not (presently) provided in most formal courses in earth sciences, hydrology, geology, geography, ecology, or ground water hydrology.

The course was prepared for current, continuing, and life-long students; practicing professionals; the lay public and members of NGOs; managers; regulators; elected officials, and anyone interested in meaningful participation in water and related land resources management. The 155-slide course was prepared for ninth grade high school students and up, and will be of value to anyone who would like an ecological approach to hydrology. **It contains no unexplained jargon.** Technical terms are seen, heard, defined and shown graphically when needed.

The course message is especially important for truly effective and responsible watershed management based on sound science. The work is on a CD in PowerPoint® (three versions) accompanied by a 29-page flat-opening workbook that contains 72 animated (color), implications, and 24 brain-challenging study question slides. Both may be purchased for \$35 at my website (below) or from Water Resources Publications (www.wrpllc.com).

I offer a 4-6 hour workshop “Using *Concepts of Watershed Hydrology*”. Its purpose is to familiarize participants with the entire course so that they may in turn present it to their associates, clients, partners, students, or NGO members. **The session is quite useful for groups where little scientific background information is present.** 4.5 Category 1 CEU Credits may be (and have been) awarded for this presentation. The workshop is offered irregularly at the SUNY College of Environmental Science and Forestry, and for various professional organizations around the country (see website). Your organization may host a workshop. **A mix of backgrounds makes for a more interesting experience and starts the communication necessary to resolution of water resource management challenges; it may even be good for the host’s business.** Enrollment of at least ten participants who purchase the CD and workbook (discounts are available for group purchases) is desired. Contact me for further details.

More course information, including a four-slide downloadable demonstration, is available at www.watershedhydrology.com. Reviews overleaf.

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**Distinguished Teaching Professor of
Water and Related Land Resources, Emeritus,
SUNY College of Environmental Science & Forestry**

Concepts of Watershed Hydrology
A Nutshell Course

This auto-tutorial, nutshell series course consists of twelve modules: There are seven watershed functions, followed by modules on soil storage, the water balance, the resource buffer theory, watershed management, and a summary.

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Book review

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Tutorial is both informative and artistic

By Peter Wild

Concepts of Watershed Hydrology: An Auto-Tutorial Course. Manual and Compact Disc. By Peter E. Black. Published by the author. Workbook of 29 pages, plus disc, 2002. \$35.

Pleasures come in many ways, some of them not anticipated. One is to watch these slides appear one by one crisply on the screen as they reveal the dynamics of watersheds. All of the slides, regardless of the instructional content, have an artistic presence of their own. Even the charts, for example those showing "The Annual Hydrograph" or the "Chemical Reactions in Water," glow before us with an abstract loveliness. However, no particular fan of nonrepresentational art, I favor the scenes of lushly deep and rolling meadows with forest following the contours and sinuous brooks ambling through it all. Yet perhaps with such headiness we're indulging ourselves too much, being distracted from the main issue, instruction in the dynamics of watersheds. That is swinging back to reality, we consider the use of the workbook and its disc. They work nicely together, with the reproductions of slides, comment, and questions on one page and on the facing page room for students' answering comments and notes. Thus, despite our enjoyment, we're gently forced to engage in the issues.

This package, modestly priced, would be a good supplement to a college course in basic hydrology. Brief as the study is, it comes with a solid career behind it. Prof. Black taught for years at SUNY's College of Environmental Science and Forestry, in Syracuse, New York, and brings a depth of experience both in the field and in publishing from which students will silently benefit.

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"Concepts of Watershed Hydrology" puts the hydrology in watershed management.

The workshop – with a group of typical watershed management and nonpoint source pollution control and prevention individuals and representative groups – provides communication for more effective watershed management as well as the confidence to offer the material to your associates.

Sound Science

Fundamentals

Definitions

Narration

Photos

Diagrams

Implications

Communication

Study Questions

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Book Reviews

Edited by Richard H. McCuen

Concepts of Watershed Hydrology: An Autotutorial Nutshell Course, Peter E. Black. SUNY ESF, 1 Forestry Dr., Syracuse, NY 13210. 2002.

This is not a book in the traditional sense. Instead, it is a manual and a CD that is a companion to one of the author's books. The author describes it as an autotutorial about "fundamental concepts in the field of watershed hydrology." The 28-page manual includes a one-page Introduction and reprints of 96 of the visuals that are on the CD (six per page and accompanying areas to make notes about each of the visuals). It would have been nice if the manual had included a "Table of Contents" of the CD. The CD includes 11 primary sections and then a summary and a set of 24 study questions, all multiple choice. The primary sections are titled: Collection Function, Storage Function, Discharge Function, Chemical Reactions Functions, Habitat Function, Attenuation Function, Flushing Function, The Water Balance, The Resources Buffer Theory, and Watershed Management.

The topics discussed are based on the author's book on watershed hydrology. While the CD would certainly be helpful to someone who is using the textbook, the CD coverage would also be of interest and help to any student of hydrology. The pictures and illustra-

tions presented in the CD images will help students visualize important hydrologic concepts. The topics tie important biological and ecological concepts to basic principles of hydrology. It will certainly broaden a student's perspective on hydrologic science.

The study questions are given at the end of the autotutorial. If a viewer were only interested in some of the topics, then they would be confronted by questions about material that they had not reviewed. It might have been better to include the relevant study questions at the end of each of the 11 modules. Also, more study questions would be nice.

Traversing through the CD is very user friendly, with the option of returning to the previous visual at each step. The manual indicates that a sound card and speakers are required to hear the audio portions. The slides are in color, where appropriate. All of the print is easy to read.

Overall, this manual-CD package is a very useful educational supplement. My only recommendation – expand it!

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Workshops have been at SUNY ESF, Cornell Cooperative Extension of Onondaga County, NYS Federation of Lake Associations, NYS Science Teachers Association, AWRA, and AIH annual meetings.

