



Introduction to Coding Theorem

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S608-4

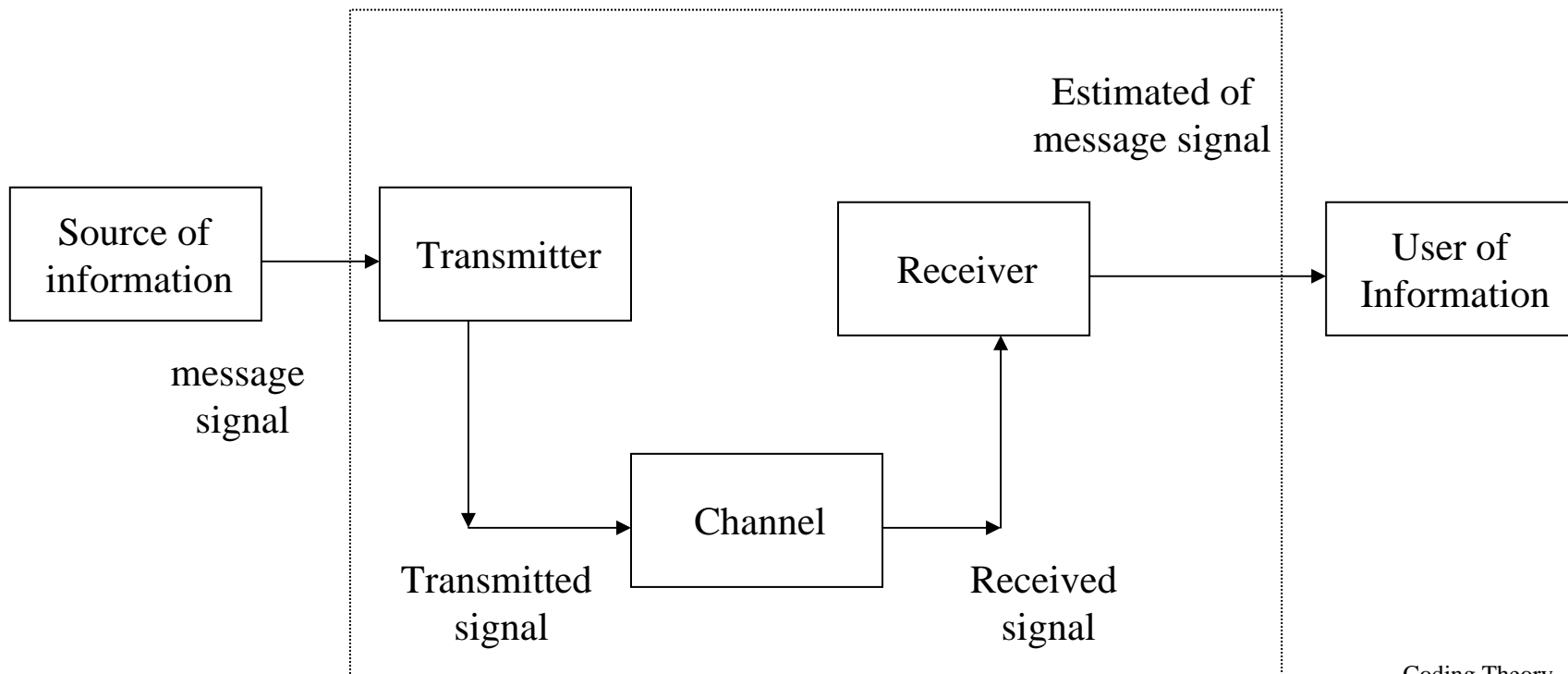


Pre-request & Objective

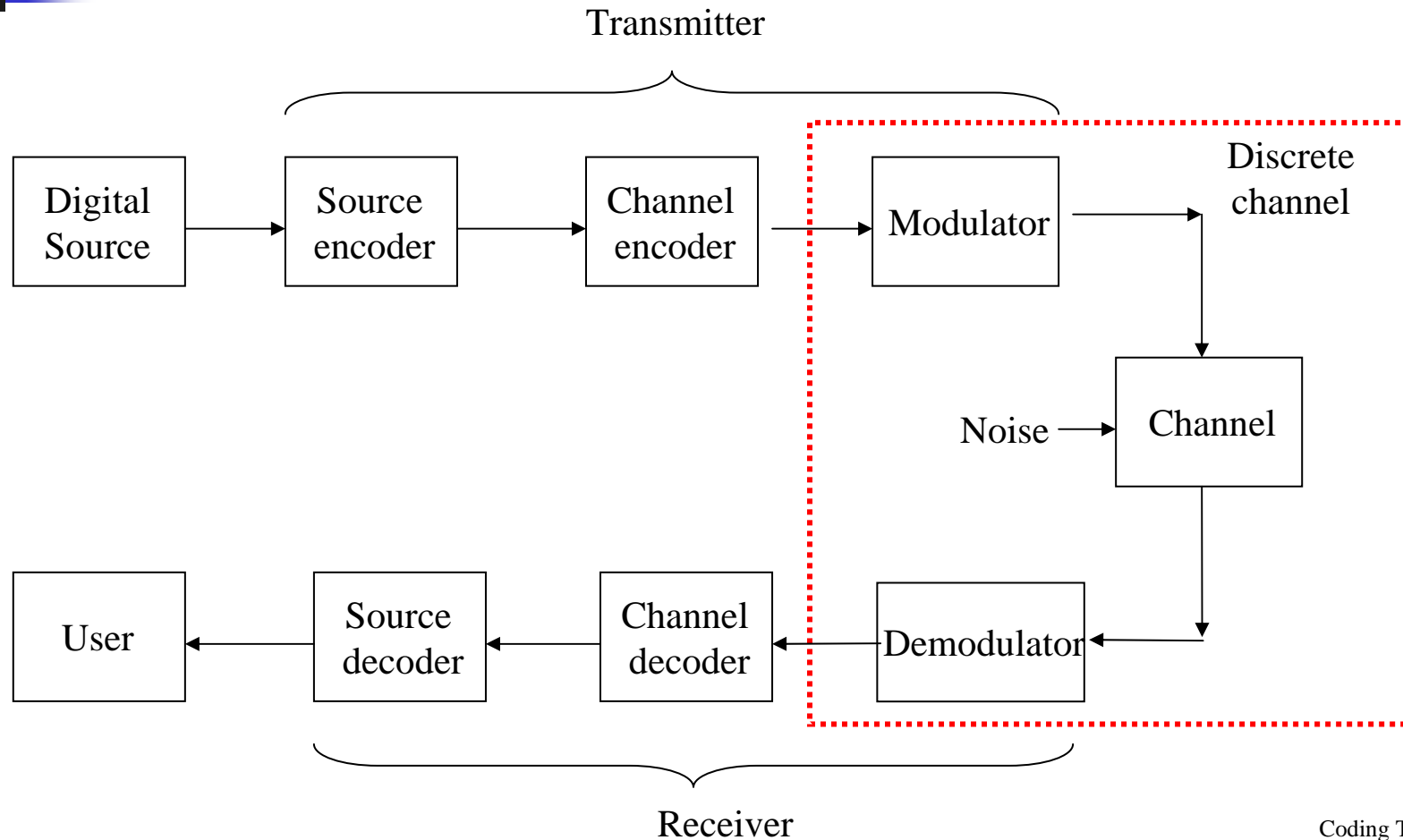
- Pre-request: Probability
- Objective: Learn information theory and coding technologies

Communication Process

- Elements of Communication Systems



Digital Communication Systems





Contents

- 1. Review probability
- 2. Information, Information and Entropy
- 3. Data compaction
- 4. Source Coding
- 5. Channel coding
- 6. Linear block code
- 7. Cyclic code
- 8. Convolutional codes
- 9. Trellis-coded modulation
- 10. Final report presentation



Reference books

- Probability and Random Processes, by Childers, 1997.
- 數據與數位通訊系統原理 張大中 編著 1997全華.
- Communication Systems by Haykin 4th Ed., 2001. (歐亞)
- Digital Communications by J. G. Proakis 4th Ed., 2001.
- Wireless Communications & networks by William Stallings, 2002. (滄海)
- Error Control Coding: Fundamentals and Applications by Shu Lin and D. J. Costello, 1983.
- 錯誤更正碼 陳後守、邱茂清、王忠炫、吳昭明 2007。



Grading: (subjected to change)

- Homework/Quiz 30%
- Midterm 25%
- Final 25%
- Final Report 20%