SW중심대학

Lecture Note 0 : Introduction

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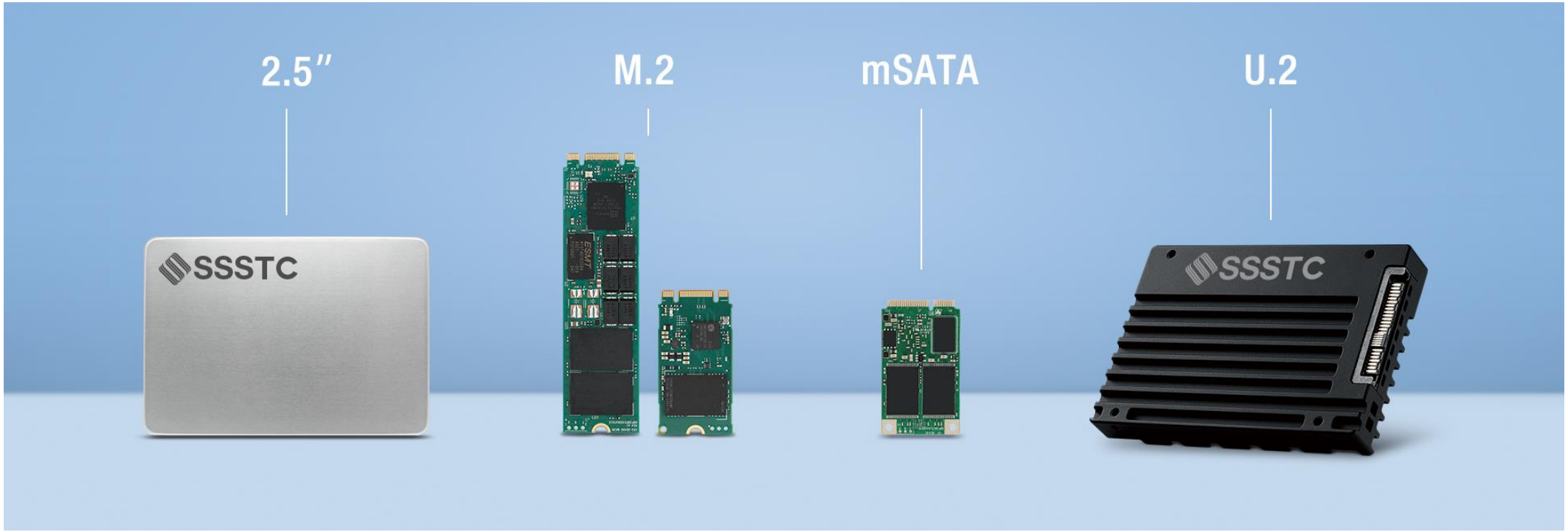
(본 교재는 2025년 과학기술정보통신부 및 정보통신기획평가원의 'SW중심대학사업' 지원을 받아 제작 되었습니다.)

Content

1. What is SSD and FTL
2. Course Objective
3. Assignment
4. Evaluation
5. Textbook
6. Discussion

1. SSD and FTL

- **SSD (Solid State Drive)**



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1. What is SSD and FTL

- SSD (Solid State Drive) and FTL (Flash Translation Layer)

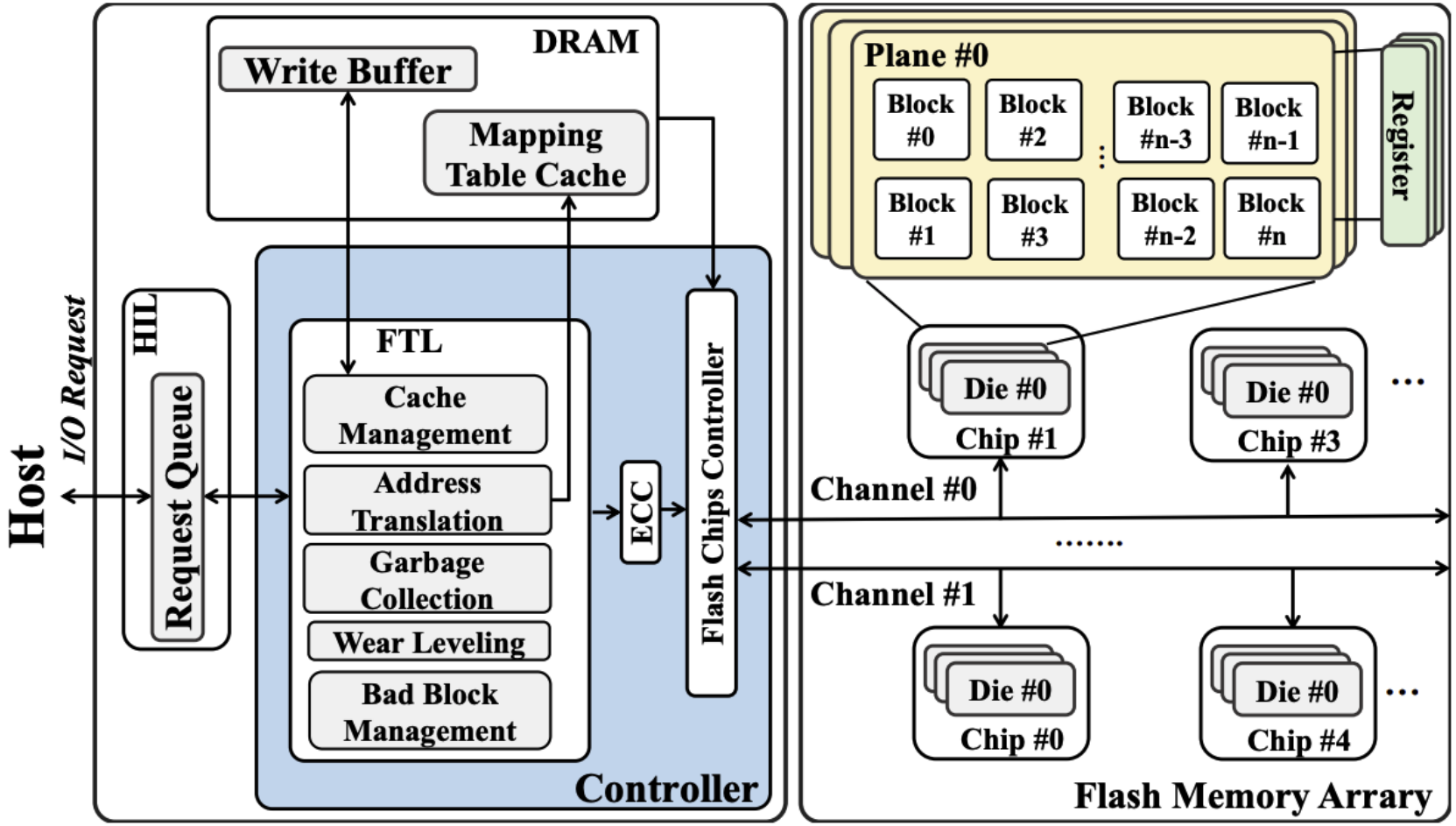
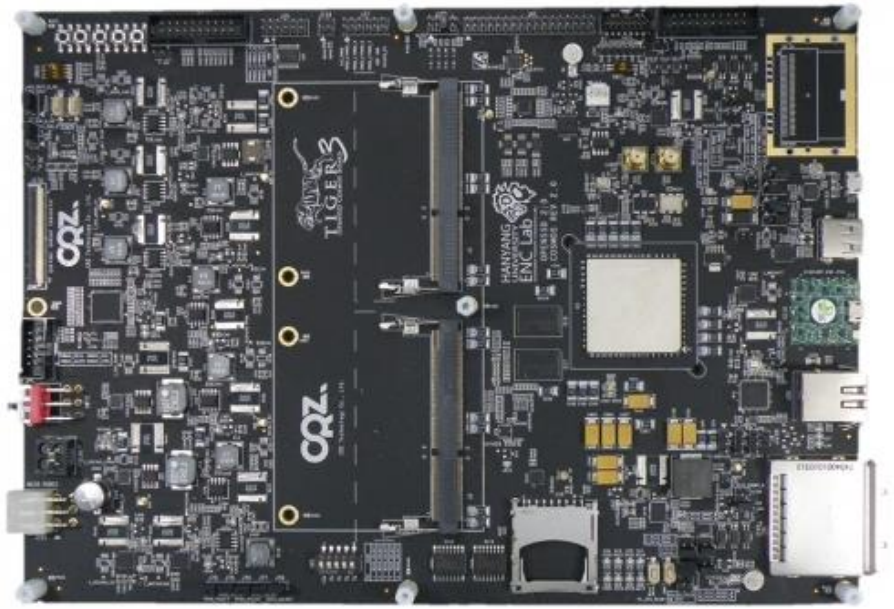


Fig. 2. The overview of SSD Structure.

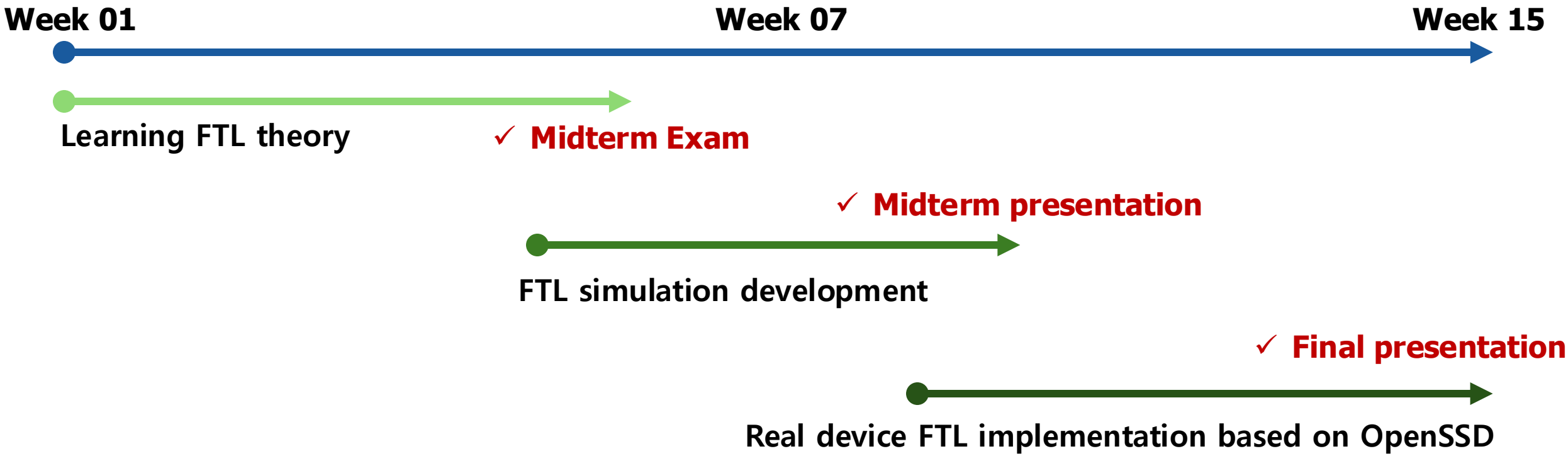
Ref : Ren, Tianyu, et al. "Device-Level Optimization Techniques for Solid-State Drives: A Survey." arXiv preprint arXiv:2507.10573 (2025).

2. Course Objective

1) Understand the characteristics of NAND Flash Memory.
2) Understand the functions and operation of FTL.
3) Implement FTL through hands-on practice.



2. Course Objective



✓ A lecture by an invited guest speaker will also be held at the corporate FADU.

3. Assignment

- **Simulator Implementation**
- **Real-world device-based implementation**
  - ✓ After the midterm exam, teams of 3-4 people are formed.
  - ✓ Presentation of ideas related to simulation-based FTL.
  - ✓ Final implementation and presentation.

✓ **TA :**

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4. Evaluation

- Midterm Exam : 30%
- Simulator Implementation and FTL Idea Evaluation : 30%
- Final Presentation Evaluation : 30%
- Attendance : 10%

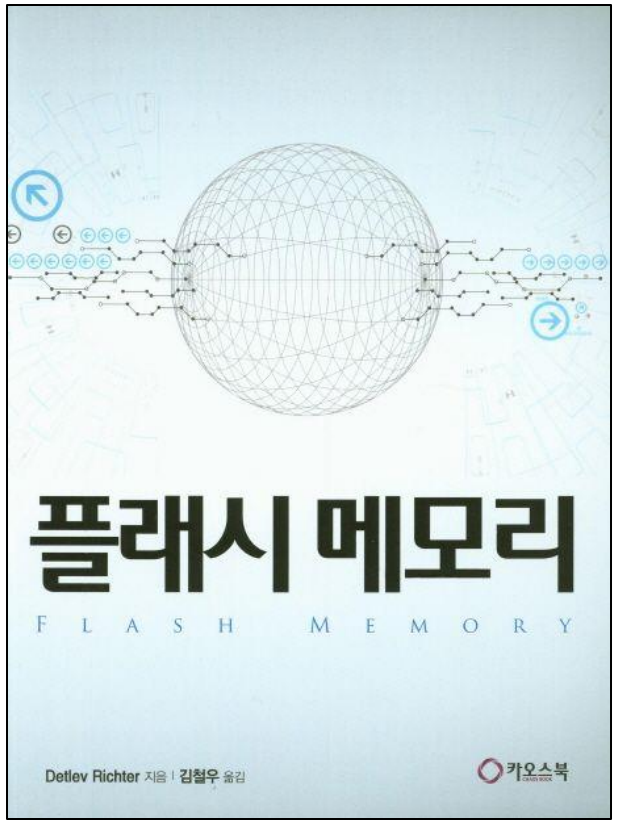
Notice

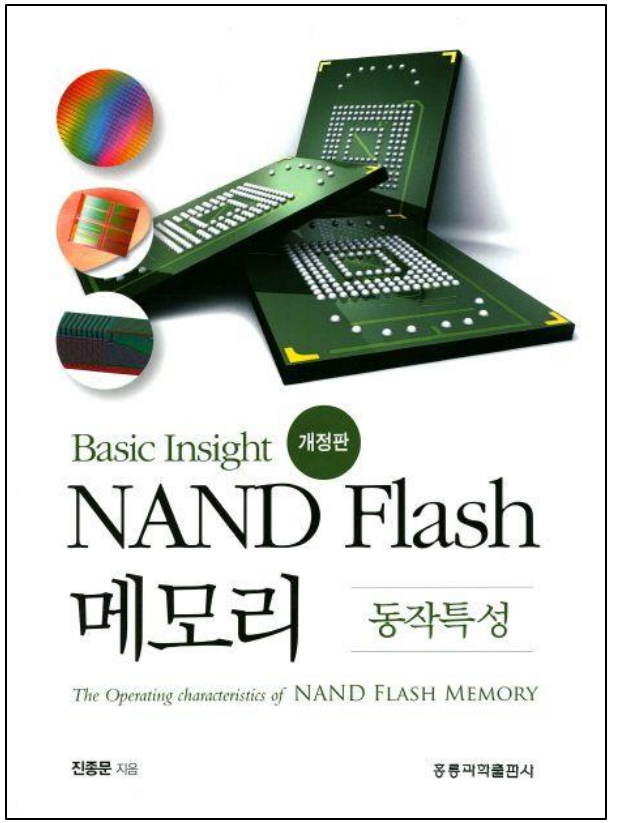
- Absence more than 5 times or Exam → F
- The total score of the midterm and final exams is less than 20 → F
- Do not submit assignment at all : F

- Submitting a paper to KSC 2025 will grant a significant bonus (extra credit).

5. Textbook

- 참고문헌
  - Basic Insight NAND Flash 메모리: 동작특성, 진종문 저자, 홍릉과학출판사
  - 플래시 메모리, Detlev Richter 저자, 김철우 번역, 카오스북





6. Discussion

Using email

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Acknowledgement

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- 본 결과물의 내용을 전재할 수 없으며, 인용(재사용)할 때에는 반드시 과학기술정보통신부와 정보통신기획평가원이 지원한 'SW중심대학'의 결과물이라는 출처를 밝혀야 합니다.