

# Fusion Reactor Technology 2

2019 Fall Semester

Yong-Seok Hwang

## References:

### 1. Magnetic Fusion Technology

Thomas J. Dolan Editor, Springer (2013)

### 2. Tokamaks

John Wesson, Oxford University Press (1997)

### 3. ITER Physics Basis Editors et al 1999 Nucl. Fusion 39 2137

Progress in the ITER Physics Basis, Nucl. Fusion 47 (2007)

Preface to Special Topic: ITER, Physics of Plasmas 22, 021701 (2015)

ITER Research Plan within the Staged Approach (Level III – Provisional Version), ITER Organization, 17 September 2018

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Assistant : 정원익(30-124, 4337), Classes : Mon. and Wed. 13:30-14:45

Grades : Exam. (60), Homework and Class Activities(40)

9/02, 9/04	Introduction
9/09, 9/11	Reactor power balance: Fusion reactor system design
9/16, 9/18	Plasma current: Start-up and Ohmic heating
9/23, 9/25	Magnetic field: Magnet technology
9/30, 10/02	Stability and confinement: Tokamak Plasma Control
10/07, (10/09)	Heating and current drive
10/14, 10/16	Power and particle control: Divertor
10/21, 10/23	(KPS, APS)
10/28, 10/30	Plasma wall interaction/PFC/Wall conditioning
11/04, 11/06	Material issues (Structural, etc.)
11/11, 11/13	Radiation shielding/Remote handling
11/18, 11/20	Tritium production and handling/Blanket
11/25, 11/27	Power extraction/Direct energy conversion/Thermal hydraulic analyses
12/02, 12/04	Plasma diagnostics
12/09, 12/11	Alternative concepts and fusion development strategies
12/16	Exam.