

Fusion Reactor Technology 2

(459.761, 핵융합로 공학 2)

Final Examination (Open-Book, Take-Home Test)

“Test for factual knowledge, understanding in depth, and critical thinking”

December 9 – 16, 2019 (One-Week)

1. Please summarize, hand-written, in *English*, in one page, for each major topic on ‘fusion reactor technology’ ranging from tokamak plasma operation scenarios to fusion development strategies that were discussed during this fall semester. [Please do not use equations, figures, diagrams, or tables when describing your summary for each topic; however, please cite the full references and/or sources when quoting specific data in the summary.] [30%]
2. Please rank the various topics from the fusion reactor technology as identified above in 1) in the order of the most critical and urgent topic first, followed by less stringent topics. In case where the ranking is impractical due to the nature of integral components, please identify as such. For each ranked topic, please explain the current status along with the main challenges confronted with its current technology. [Please feel free to type your text and use equations, figures, diagrams, or tables. Please define the parameters when used in the equations and limit the explanation for the corresponding topic within one page.] [30%]
3. Please generate your own questions/problems for each ranked topic as identified above in 2) and solve them as best as you can. Certain questions/problems could have been open-ended and do not have coherent answers at present. The questions/problems you generated and solved should not be the problems either solved in class or given answers in the textbook (i.e., Dolan’s MFT, 2013). Either typed or hand-written answers are acceptable. [40%]

Note: The Final Exam papers should be turned in by 5:00 PM Monday, Dec. 16, 2019. There will be no class on Dec. 16, 2019.