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| **Faculty Information** | **Name** | | Jun Moon | | | | | |
| **E-mail** | | junmoon@hanyang.ac.kr | | | | | |
| **Home University** | | College of Engineering | | | | | |
| **Department** | | Department of Electrical Engineering | | | | | |
| **Homepage** | | <https://junmoony.github.io/> | | | | | |
| **Course Information** | **Class No.** | | TBA | **Course Code** | MAT3008 | | **Credits** | 3 |
| **Course Name** | | Numerical Analysis | | | | | |
| **Lecture Schedule** | | Mon-Fri / 09:00 ~ 15:00 | | | | | |
| **Course Description** | | This course focuses on basic techniques for the efficient numerical solution of problems in science and engineering. Topics include fixed point, root finding, interpolation, approximation of functions, integration, differential equations, direct and iterative methods in linear algebra | | | | | |
| **Course Objective** | | The course objective is to learn numerical approaches for computation and solving of mathematical equations. We will study various numerical approaches to solve fixed point, root finding, interpolation, approximation of functions, integration, linear and nonlinear equations and differential equations | | | | | |
| **Prerequisite** | | * Engineering mathematics, calculus, linear algebra | | | | | |
| **Materials/Textbooks** | | Lecture slides by Jun Moon | | | | | |
| **Evaluation** | **Attendance** | | 10% | **Quiz** | | % | | |
| **Assignment** | | % | **Mid-term Exam** | | 20% | | |
| **Presentation** | | % | **Final Exam** | | 30% | | |
| **Group Project** | | % | **Participation** | | % | | |
| **Etc.** | | **Evaluation Item** | | | **Ratio** | | |
| Programming Assignment | | | 40% | | |
|  | | | % | | |
| **Daily**  **Lecture Plan** | **Day 1** | Course introduction / MATLAB / Python | | | | | | |
| **Day 2** | Nonlinear equations, Curve fitting | | | | | | |
| **Day 3** | Interpolation and polynomial approximation, Project Day / Review | | | | | | |
| **Day 4** | Midterm | | | | | | |
| **Day 5** | Linear equations | | | | | | |
| **Day 6** | Numerical differentiation and integration | | | | | | |
| **Day 7** | Differential equations | | | | | | |
| **Day 8** | Project Day / Review | | | | | | |
| **Day 9** | Final | | | | | | |