# SYLLABUS

**Date:** 14. 07. 2017.

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| **Course Name** | Amorphous Materials | **Credit** | 3 |
| **Instructor** | John G Fisher | **Class time** | Mon 5- 6교시 (13:00- 14:50), Wed 5교시 (13:00 – 13:50) |
| **Depart-ment** | Materials Science and Engineering | **Classroom** | Engineering Building 6 room 110 |
| **Office** | Engineering Building 6 room 315 | **Counsel Hours** | Wednesday 11:00 am |
| **Contact Number** | | **E- mail** | |
| **TA** | None | **Course Grade** | Graduate |
| **Classifica-tion** | | **Pre-requisites** | Physics, Chemistry, Materials Science |
| **Program Outcomes** | | | |

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| **Course Overview** | A definition of amorphous materials will be given, and the structure and formation of glasses discussed. An overview of glass production techniques will be given, followed by a discussion of phase separation / immiscibility in glasses. We will then look at the mechanical and optical properties of glasses. After looking at the structure and properties of glasses, we will study various practical applications of amorphous materials, such as containers and optical applications. |
| **Lecture objectives** | To give an introduction to amorphous materials and to teach the basic physics, chemistry and properties of amorphous materials. Basic and advanced applications for amorphous materials will also be taught. |
| **Teaching Methods** | Powerpoint presentations, homework |

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| Grading System | Attendance, mid- term exam, final exam |
| References | Introduction to Glass Science and Technology, J. E. Shelby, RSC Paperbacks, materials prepared by the lecturer. |

**[Relation with Program Outcomes]**

| No. | Program Outcomes | Weight | CEATool |
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*※ 해당 교과목과 관련 학습성과에 대하여 학점당 100점(1학점=100, 3학점=300)으로 표시*

*※ 교과기반 학습성과 평가 항목의 경우 CEA Tool에 평가도구를 기재*

**[Weekly Schedule]**

| Week | Description | Remarks |
|---|---|---|
| 1 | Introduction | |
| 2 | Principles of glass formation and glass structure | |
| 3 | Principles of glass formation and glass structure | |
| 4 | Principles of glass formation and glass structure | |
| 5 | Glass melting and glass forming | |
| 6 | Glass melting and glass forming | |
| 7 | Mid-term exam | |
| 8 | Immiscibility / Phase separation | |
| 9 | Mechanical properties | |
| 10 | Optical properties | |
| 11 | Optical properties | |
| 12 | Optical properties | |

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| **13** | Coatings on glasses | |
| **14** | Coatings on glasses | |
| **15** | Final exam | |