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| Data: | TM. MA. Nr. 3222 / Examination number: 51015 | Version: 05.04.2018 | Start Year: WiSe 2016 |
| Module Name: | **Thermodynamics of Materials** | | |
| (English): | | | |
| Responsible: | Leineweber, Andreas / Prof. Dr. rer. nat. habil. | | |
| Lecturer(s): | Fabrichnaya, Olga / Dr. | | |
| Institute(s): | Institute of Materials Science | | |
| Duration: | 1 Semester(s) | | |
| Competencies: | The students understand thermodynamic properties of materials and are able to apply calculation methods of phase diagrams. | | |
| Contents: | Most important topics are:<br>Thermodynamic laws and quantities<br>Thermodynamic properties of materials<br>Calculation of complex equilibria in multiphase and multicomponent systems<br>Optimization of phase diagrams | | |
| Literature: | Mats Hillert, “Phase equilibria, phase diagrams and phase transformations”, 2nd Ed., Cambridge (2009)<br>Robert de Hoff, “Thermodynamics in Materials Science", 2nd Ed., Taylor & Francis (2006)<br>Hans Leo Lukas, Suzana Fries, Bo Sundman, “Computational Thermodynamics, the CALPHAD method”, Cambridge (2007) | | |
| Types of Teaching: | S1 (WS): Lectures (2 SWS)<br>S1 (WS): Practical Application (1 SWS) | | |
| Pre-requisites: | **Recommendations:**<br>Background in physical chemistry and materials science | | |
| Frequency: | yearly in the winter semester | | |
| Requirements for Credit Points: | For the award of credit points it is necessary to pass the module exam.<br>The module exam contains:<br>MP/KA (KA if 6 students or more) [MP minimum 30 min / KA 120 min]<br>PVL: Successful completing of all practical courses<br>PVL have to be satisfied before the examination. | | |
| Credit Points: | 3 | | |
| Grade: | The Grade is generated from the examination result(s) with the following weights (w):<br>MP/KA [w: 1] | | |
| Workload: | The workload is 90h. It is the result of 45h attendance and 45h self-studies. | | |