

## Modules for Physics

Date 24/07/19

# Mastermodule

## phy310 - Graduation Module Experimental Physics

<b>Module label</b>	Graduation Module Experimental Physics			
<b>Module code</b>	phy310			
<b>Credit points</b>	6.0 KP			
<b>Workload</b>	180 h			
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>Master Physik &gt; Mastermodule</li> </ul>			
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>Christoph Lienau</li> </ul>			
<b>Entry requirements</b>				
<b>Skills to be acquired in this module</b>				
<b>Module contents</b>				
<b>Reader's advisory</b>				
<b>Links</b>				
<b>Languages of instruction</b>	German, English			
<b>Duration (semesters)</b>	1 Semester			
<b>Module frequency</b>				
<b>Module capacity</b>	unlimited			
<b>Modullevel</b>	---			
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht			
<b>Lern-/Lehrform / Type of program</b>				
<b>Vorkenntnisse / Previous knowledge</b>				
<b>Examination</b>	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
<b>Course type</b>	Comment	SWS	Frequency	Workload attendance
Lecture		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				84 h

## phy320 - Graduation Module Theoretical Physics

<b>Module label</b>	Graduation Module Theoretical Physics			
<b>Module code</b>	phy320			
<b>Credit points</b>	6.0 KP			
<b>Workload</b>	180 h			
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>			
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ Andreas Engel</li> </ul> Module counseling <ul style="list-style-type: none"> <li>◦ Andreas Engel</li> <li>◦ Martin Holthaus</li> <li>◦ Jutta Kunz-Drolshagen</li> <li>◦ Alexander Hartmann</li> <li>◦ Claus Lämmerzahl</li> <li>◦ Svend-Age Biehs</li> </ul>			
<b>Entry requirements</b>				
<b>Skills to be acquired in this module</b>				
<b>Module contents</b>				
<b>Reader's advisory</b>				
<b>Links</b>				
<b>Languages of instruction</b>	German, English			
<b>Duration (semesters)</b>	1 Semester			
<b>Module frequency</b>				
<b>Module capacity</b>	unlimited			
<b>Modullevel</b>	---			
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht			
<b>Lern-/Lehrform / Type of program</b>				
<b>Vorkenntnisse / Previous knowledge</b>				
Examination	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
Course type	Comment	SWS	Frequency	Workload attendance
Lecture		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				56 h

## phy330 - Graduation Module Applied Physics

<b>Module label</b>	Graduation Module Applied Physics			
<b>Module code</b>	phy330			
<b>Credit points</b>	6.0 KP			
<b>Workload</b>	180 h			
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>			
<b>Contact person</b>	<p>Module responsibility</p> <ul style="list-style-type: none"> <li>◦ Joachim Peinke</li> </ul> <p>Module counseling</p> <ul style="list-style-type: none"> <li>◦ Birger Kollmeier</li> <li>◦ Simon Doclo</li> <li>◦ Detlev Heinemann</li> <li>◦ Martin Kühn</li> <li>◦ Steven van de Par</li> <li>◦ Joachim Peinke</li> <li>◦ Matthias Blau</li> <li>◦ Thomas Brand</li> <li>◦ Volker Hohmann</li> <li>◦ Jörn Anemüller</li> </ul>			
<b>Entry requirements</b>				
<b>Skills to be acquired in this module</b>				
<b>Module contents</b>				
<b>Reader's advisory</b>				
<b>Links</b>				
<b>Languages of instruction</b>	German, English			
<b>Duration (semesters)</b>	1 Semester			
<b>Module frequency</b>				
<b>Module capacity</b>	unlimited			
<b>Modullevel</b>	---			
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht			
<b>Lern-/Lehrform / Type of program</b>				
<b>Vorkenntnisse / Previous knowledge</b>				
<b>Examination</b>	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
<b>Course type</b>	<b>Comment</b>	<b>SWS</b>	<b>Frequency</b>	<b>Workload attendance</b>
Lecture		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				84 h

## phy340 - Advanced Subject-Specific Module I

<b>Module label</b>	Advanced Subject-Specific Module I			
<b>Module code</b>	phy340			
<b>Credit points</b>	18.0 KP			
<b>Workload</b>	540 h			
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>			
<b>Contact person</b>	<p>Module responsibility</p> <ul style="list-style-type: none"> <li>◦ Birger Kollmeier</li> <li>◦ Andreas Engel</li> <li>◦ Christoph Lienau</li> </ul> <p>Authorized examiners</p> <ul style="list-style-type: none"> <li>◦ Alle hier genannten</li> </ul> <p>Module counseling</p> <ul style="list-style-type: none"> <li>◦ Lehrende der Physik</li> </ul>			
<b>Entry requirements</b>				
<b>Skills to be acquired in this module</b>				
<b>Module contents</b>				
<b>Reader's advisory</b>				
<b>Links</b>				
<b>Languages of instruction</b>	German, English			
<b>Duration (semesters)</b>	1 Semester			
<b>Module frequency</b>				
<b>Module capacity</b>	unlimited			
<b>Modullevel</b>	---			
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht			
<b>Lern-/Lehrform / Type of program</b>				
<b>Vorkenntnisse / Previous knowledge</b>				
<b>Examination</b>	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
<b>Course type</b>	<b>Comment</b>	<b>SWS</b>	<b>Frequency</b>	<b>Workload attendance</b>
Lecture		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
Practical		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				112 h

## phy350 - Advanced Subject-Specific Module II

<b>Module label</b>	Advanced Subject-Specific Module II
<b>Module code</b>	phy350
<b>Credit points</b>	15.0 KP
<b>Workload</b>	450 h
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ Birger Kollmeier</li> <li>◦ Andreas Engel</li> <li>◦ Christoph Lienau</li> </ul>

### Entry requirements

### Skills to be acquired in this module

### Module contents

### Reader's advisory

### Links

<b>Languages of instruction</b>	German, English
<b>Duration (semesters)</b>	1 Semester
<b>Module frequency</b>	
<b>Module capacity</b>	unlimited
<b>Modullevel</b>	---
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht

### Lern-/Lehrform / Type of program

### Vorkenntnisse / Previous knowledge

Examination	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
Course type	Comment	SWS	Frequency	Workload attendance
Lecture		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
Practical		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				112 h

## phy360 - Advanced Laboratory Course Physics

<b>Module label</b>	Advanced Laboratory Course Physics	
<b>Module code</b>	phy360	
<b>Credit points</b>	9.0 KP	
<b>Workload</b>	270 h	
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>	
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ Michael Krüger</li> </ul>	
<b>Entry requirements</b>		
<b>Skills to be acquired in this module</b>		
<b>Module contents</b>		
<b>Reader's advisory</b>		
<b>Links</b>		
<b>Language of instruction</b>	German	
<b>Duration (semesters)</b>	1 Semester	
<b>Module frequency</b>		
<b>Module capacity</b>	unlimited	
<b>Modullevel</b>	---	
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht	
<b>Lern-/Lehrform / Type of program</b>		
<b>Vorkenntnisse / Previous knowledge</b>		
<b>Examination</b>	Time of examination	Type of examination
<b>Final exam of module</b>		PT
<b>Course type</b>	Seminar	
<b>SWS</b>		
<b>Frequency</b>		
<b>Workload attendance</b>	0 h	

## phy370 - Specialization Module

<b>Module label</b>	Specialization Module	
<b>Module code</b>	phy370	
<b>Credit points</b>	15.0 KP	
<b>Workload</b>	450 h	
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>	
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ BetreuerIn der Masterarbeit</li> </ul>	
<b>Entry requirements</b>		
<b>Skills to be acquired in this module</b>		
<b>Module contents</b>		
<b>Reader's advisory</b>		
<b>Links</b>		
<b>Language of instruction</b>	German	
<b>Duration (semesters)</b>	1 Semester	
<b>Module frequency</b>		
<b>Module capacity</b>	unlimited	
<b>Modullevel</b>	---	
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht	
<b>Lern-/Lehrform / Type of program</b>		
<b>Vorkenntnisse / Previous knowledge</b>		
<b>Examination</b>	Time of examination	Type of examination
<b>Final exam of module</b>		SA
<b>Course type</b>	Seminar	
<b>SWS</b>		
<b>Frequency</b>		
<b>Workload attendance</b>	0 h	

## phy380 - Methodological Skills and Project Planning

<b>Module label</b>	Methodological Skills and Project Planning	
<b>Module code</b>	phy380	
<b>Credit points</b>	15.0 KP	
<b>Workload</b>	450 h	
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>	
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ BetreuerIn der Masterarbeit</li> </ul>	
<b>Entry requirements</b>		
<b>Skills to be acquired in this module</b>		
<b>Module contents</b>		
<b>Reader's advisory</b>		
<b>Links</b>		
<b>Language of instruction</b>	German	
<b>Duration (semesters)</b>	1 Semester	
<b>Module frequency</b>		
<b>Module capacity</b>	unlimited	
<b>Modullevel</b>	---	
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht	
<b>Lern-/Lehrform / Type of program</b>		
<b>Vorkenntnisse / Previous knowledge</b>		
<b>Examination</b>	Time of examination	Type of examination
<b>Final exam of module</b>		SA
<b>Course type</b>	Seminar	
<b>SWS</b>		
<b>Frequency</b>		
<b>Workload attendance</b>	0 h	

## phy341 - Advanced Subject-Specific Module I

<b>Module label</b>	Advanced Subject-Specific Module I			
<b>Module code</b>	phy341			
<b>Credit points</b>	9.0 KP			
<b>Workload</b>	270 h			
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>			
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ Andreas Engel</li> <li>◦ Christoph Lienau</li> <li>◦ Birger Kollmeier</li> </ul> Module counseling <ul style="list-style-type: none"> <li>◦ Lehrende der Physik</li> </ul>			
<b>Entry requirements</b>				
<b>Skills to be acquired in this module</b>				
<b>Module contents</b>				
<b>Reader's advisory</b>				
<b>Links</b>				
<b>Languages of instruction</b>	German, English			
<b>Duration (semesters)</b>	1 Semester			
<b>Module frequency</b>				
<b>Module capacity</b>	unlimited			
<b>Modullevel</b>	---			
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht			
<b>Lern-/Lehrform / Type of program</b>				
<b>Vorkenntnisse / Previous knowledge</b>				
<b>Examination</b>	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
<b>Course type</b>	Comment	SWS	Frequency	Workload attendance
Lecture		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
Practical		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				112 h

## phy351 - Advanced Subject-Specific Module II

<b>Module label</b>	Advanced Subject-Specific Module II			
<b>Module code</b>	phy351			
<b>Credit points</b>	9.0 KP			
<b>Workload</b>	270 h			
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>			
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ Andreas Engel</li> <li>◦ Christoph Lienau</li> <li>◦ Birger Kollmeier</li> </ul> Module counseling <ul style="list-style-type: none"> <li>◦ Lehrende der Physik</li> </ul>			
<b>Entry requirements</b>				
<b>Skills to be acquired in this module</b>				
<b>Module contents</b>				
<b>Reader's advisory</b>				
<b>Links</b>				
<b>Languages of instruction</b>	German, English			
<b>Duration (semesters)</b>	1 Semester			
<b>Module frequency</b>				
<b>Module capacity</b>	unlimited			
<b>Modullevel</b>	---			
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht			
<b>Lern-/Lehrform / Type of program</b>				
<b>Vorkenntnisse / Previous knowledge</b>				
Examination	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
Course type	Comment	SWS	Frequency	Workload attendance
Lecture		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
Practical		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				112 h

## phy355 - Elective Courses in Physics

<b>Module label</b>	Elective Courses in Physics
<b>Module code</b>	phy355
<b>Credit points</b>	15.0 KP
<b>Workload</b>	450 h
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Mastermodule</li> </ul>
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ Andreas Engel</li> <li>◦ Christoph Lienau</li> <li>◦ Birger Kollmeier</li> </ul>

### Entry requirements

### Skills to be acquired in this module

### Module contents

### Reader's advisory

### Links

<b>Language of instruction</b>	German
<b>Duration (semesters)</b>	1 Semester
<b>Module frequency</b>	
<b>Module capacity</b>	unlimited
<b>Modullevel</b>	---
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht

### Lern-/Lehrform / Type of program

### Vorkenntnisse / Previous knowledge

Examination	Time of examination		Type of examination	
<b>Final exam of module</b>			M	
Course type	Comment	SWS	Frequency	Workload attendance
Lecture		2.00	SuSe or WiSe	28 h
Exercises		2.00	SuSe or WiSe	28 h
Practical		2.00	SuSe or WiSe	28 h
Seminar		2.00	SuSe or WiSe	28 h
<b>Total time of attendance for the module</b>				112 h

## Abschlussmodul

### mam - Master's Thesis Module

<b>Module label</b>	Master's Thesis Module	
<b>Module code</b>	mam	
<b>Credit points</b>	30.0 KP	
<b>Workload</b>	900 h	
<b>Used in course of study</b>	<ul style="list-style-type: none"> <li>• Master Physik &gt; Abschlussmodul</li> </ul>	
<b>Contact person</b>	Module responsibility <ul style="list-style-type: none"> <li>◦ BetreuerIn der Masterarbeit</li> </ul>	
<b>Entry requirements</b>		
<b>Skills to be acquired in this module</b>		
<b>Module contents</b>		
<b>Reader's advisory</b>		
<b>Links</b>		
<b>Languages of instruction</b>	German, English	
<b>Duration (semesters)</b>	1 Semester	
<b>Module frequency</b>		
<b>Module capacity</b>	unlimited	
<b>Modullevel</b>	---	
<b>Modulart</b>	je nach Studiengang Pflicht oder Wahlpflicht	
<b>Lern-/Lehrform / Type of program</b>		
<b>Vorkenntnisse / Previous knowledge</b>		
<b>Examination</b>	Time of examination	Type of examination
<b>Final exam of module</b>		G
<b>Course type</b>	Seminar	
<b>SWS</b>		
<b>Frequency</b>		
<b>Workload attendance</b>	0 h	

