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学部・大学院区分 Undergraduate / Graduate	理学部
時間割コード Registration Code	0680040
科目区分 Course Category	専門基礎科目 Basic Specialized Courses
科目名 【日本語】 Course Title	解析力学2
科目名 【英語】 Course Title	<a href="#">Analytical Mechanics II</a>
コースナンバリングコード Course Numbering Code	
担当教員 【日本語】 Instructor	重森 正樹 ○
担当教員 【英語】 Instructor	SHIGEMORI Masaki ○
単位数 Credits	2
開講期・開講時間帯 Term / Day / Period	春 木曜日 1時限 Spring Thu 1
授業形態 Course style	講義 Lecture
学科・専攻 Department / Program	G30 Physics
必修・選択 Compulsory / Selected	See the "Course List and Graduation Requirements for your program for your enrollment year."

授業の目的 【日本語】 Goals of the Course(JPN)	
授業の目的 【英語】 Goals of the Course	This course is the continuation of Analytical Mechanics I. Based on the framework developed there, some explicit physical systems and their physics will be studied, such as motion in non-inertial frames, rigid bodies, and small oscillations. Toward the end of the course, special relativity will be introduced and relevant notions will be developed.
到達目標 【日本語】 Objectives of the Course(JPN))	
到達目標 【英語】 Objectives of the Course	A student who successfully completes this course will be able to:  - Describe the motion in non-inertial frames using the notion of fictitious forces  - Describe the motion of rotating mass distributions (rigid bodies) in terms of an angular velocity vector and a moment of inertia tensor  - Explain what normal modes and normal frequencies are, and find them for a given mechanical system  - State the principles of special relativity and describe the motion of a relativistic system in different frames of reference
授業の内容や構成 Course Content / Plan	1. Motion in a Non-Inertial Frame 2. Rigid Bodies 3. Small Oscillations 4. Special Relativity
履修条件 Course Prerequisites	Analytical Mechanics I, Mathematical Physics I & II
関連する科目 Related Courses	Physics Tutorial IIc (the tutorial for AM II)
成績評価の方法と基準 Course Evaluation Method and Criteria	Attendance/Quizzes: 10%, homework: 30%, exams (midterm and final): 30%+30%=60%
不可(F)と欠席(W)の基準 Criteria for "Fail (F)" & "Absent (W)" grades	The "Absent" grade is reserved for students who withdraw by the deadline. After that day, a letter grade will be given based on the assessment during the semester.
参考書 Reference Book	L. D. Landau and E. M. Lifschitz, "Mechanics: Volume 1 (Course of Theoretical Physics)", Butterworth-Heinemann; 3rd edition (1976), ISBN-10: 0750628960, ISBN-13: 978-0750628969. L. N. Hand and J. D. Finch, "Analytical Mechanics", Cambridge University Press (1999), ISBN-10: 0521575729, ISBN-13: 978-0521575720.
教科書・テキスト Textbook	H. Goldstein, C. Poole and J. Safko, "Classical Mechanics", Pearson; 3rd edition (2013), ISBN-10: 1292026553, ISBN-13: 978-1292026558
課外学習等 (授業時間外学習の指示) Study Load(Self-directed Learning Outside Course Hours)	Weekly assignments
注意事項 Notice for Students	
他学科聴講の可否 Propriety of Other department student's attendance	
他学科聴講の条件 Conditions for Other department student's attendance	
レベル Level	
キーワード Keyword	
履修の際のアドバイス Advice	
授業開講形態等 Lecture format, etc.	Hybrid or online only, depending on the situation (will use Zoom or Teams)
遠隔授業(オンデマンド型)で行う場合の追加措置 Additional measures for remote class (on-demand class)	Please keep Zoom and Teams upgraded to the latest version.

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