(COURSE 1) WEEK #1

	11 Jan. **Monday**	12 Jan. **Tuesday**	13 Jan. **Wednesday**	14 Jan. **Thursday**	15 Jan. **Friday**	
MORNING		**Special relativity, electromagnetism, classical & quantum mechanics: What to remember for particle accelerators** *E. Métral*	**Transverse Beam Dynamics** B. Holzer	**Transverse Beam Dynamics** B. Holzer	**Transverse Beam Dynamics** B. Holzer	08:45 - 09:45
			Transverse Beam Dynamics B. Holzer	**Transverse Beam Dynamics** B. Holzer	**Transverse Beam Dynamics** B. Holzer	09:45 - 10:45
		How to make the best use of AI and ML A. Oeftiger and R. Ischebeck	**Transverse Beam Dynamics** B. Holzer	**Transverse Beam Dynamics** B. Holzer	**Transverse Beam Dynamics** B. Holzer	10:45 - 12:00
						12:00 - 13:15
AFTERNOON	**(13:00 - 14:45) ECLA**	**Transverse Beam Dynamics** B. Holzer	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	13:15 - 14:15
	(15:00 - 16:00) OFFICIAL OPENING (1/2): Presentation of ESI and JUAS *E. Métral, F. Mouthon, D. Baizhanova*	**Transverse Beam Dynamics** B. Holzer	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	14:15 - 15:15
	(16:00 - 17:00) OFFICIAL OPENING (2/2): Introduction of students + ice breaking *E. Métral, F. Mouthon, D. Baizhanova*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Longitudinal Beam Dynamics** *A. Lasheen*	15:15 - 16:30
	Free time for food shopping and refreshments	**Particle Accelerators in the 21st century** Seminar *M. Vretenar*	**Introduction to CERN & its Accelerator Complex** Seminar *B. Mikulec*	**Electron-positron circular colliders** Seminar *J. Keintzel*	**Longitudinal Beam Dynamics** *A. Lasheen*	16:30 - 17:30
		International apero				17:30 - 18:30
						18:30 - 20:00

(COURSE 1)

WEEK #2

juas

	18 Jan. **Monday**	19 Jan. **Tuesday**	20 Jan. **Wednesday**	21 Jan. **Thursday**	22 Jan. **Friday**	
MORNING	**Transverse Beam Dynamics** B. Holzer	**Longitudinal Beam Dynamics** *A. Lasheen*	**Linacs** *J.B. Lallement*	**Linacs** *J.B. Lallement*	**Linacs** *J.B. Lallement*	08:45 - 09:45
	GROUP1: TBD B. Holzer **GROUP2: Intro to Xsuite for TBD** *N. Fuster Mar5nez*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Linacs** *J.B. Lallement*	**Linacs** *J.B. Lallement*	**Linacs** *J.B. Lallement*	09:45 - 10:45
	GROUP2: TBD B. Holzer **GROUP1: Intro to Xsuite for TBD** *N. Fuster Mar5nez*	**Longitudinal Beam Dynamics** *A. Lasheen*	**Linacs** *J.B. Lallement*	**Linacs** *J.B. Lallement*	**Linacs** *J.B. Lallement*	10:45 - 12:00
						12:00 - 13:15
AFTERNOON	**GROUP1: TBD** B. Holzer **GROUP2: Xsuite TBD workshop** *N. Fuster Mar5nez*	**GROUP1: Xsuite longitudinal workshop** *B. Salvant* **GROUP2: Longitudinal Beam Dynamics** *A. Lasheen*	**Transverse linear imperfections** *D. Gamba*	**Transverse linear imperfections** *D. Gamba*	**Transverse linear imperfections** *D. Gamba*	13:15 - 14:15
			Transverse linear imperfections *D. Gamba*	**Transverse linear imperfections** *D. Gamba*	**Transverse linear imperfections** *D. Gamba*	14:15 - 15:15
	GROUP2: TBD B. Holzer **GROUP1: Xsuite TBD workshop** *N. Fuster Mar5nez*	**GROUP2: Xsuite longitudinal workshop** *B. Salvant* **GROUP1: Longitudinal Beam Dynamics** *A. Lasheen*	**Transverse linear imperfections** *D. Gamba*	**Transverse linear imperfections** *D. Gamba*	**Transverse linear imperfections** *D. Gamba*	15:15 - 16:30
				IBS and Touschek Seminar *Fanouria Antoniou*		16:30 - 17:30

(COURSE 1) WEEK #3

	25 Jan. **Monday**	26 Jan. **Tuesday**	27 Jan. **Wednesday**	28 Jan. **Thursday**	29 Jan. **Friday**	
MORNING	**WRITTEN (pen-and-paper) EXAMINATION 1/4 (09:00 - 11:00)** **Transverse beam dynamics**	**Cyclotrons** *A. Gerbershagen*	**Fixed-target beamlines** Seminar *A. Gerbershagen*	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	08:45 - 09:45
		Cyclotrons *A. Gerbershagen*	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	09:45 - 10:45
		Cyclotrons *A. Gerbershagen*	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	10:45 - 12:00
						12:00 - 13:15
AFTERNOON		**Visits at CERN (ALICE experiment with John Jowett, LEIR with Maciej Slupecki and CCC with Panos Zisopoulos; possibly others)**	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	**Synchrotron Radiation** *R. Ischebeck*	13:15 - 14:15
	WRITTEN (pen-and-paper) EXAMINATION 2/4 (14:15 - 16:15) **Longitudinal beam dynamics**		**Synchrotron Radiation** *R. Ischebeck*	**Transverse nonlinear effects** *S. Kostoglou*	**Transverse nonlinear effects** *S. Kostoglou*	14:15 - 15:15
			Transverse nonlinear effects *S. Kostoglou*	**Transverse nonlinear effects** *S. Kostoglou*	**Transverse nonlinear effects** *S. Kostoglou*	15:15 - 16:30
			Transverse nonlinear effects *S. Kostoglou*		**Low-emittance lattices for large colliders** Seminar *Pantaleo Raimondi*	16:30 - 17:30
						17:30 - 18:00
		C1 APERO ALUMNI				18:00 - 19:30

(COURSE 1) WEEK #4

	1 Feb. **Monday**	2 Feb. **Tuesday**	3 Feb. **Wednesday**	4 Feb. **Thursday**	5 Feb. **Friday**	
MORNING	**WRITTEN (pen-and-paper) EXAMINATION 3/4 (09:00 - 11:00)** **Synchrotron Radiation**	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*	**ORAL EXAMINATION Accelerator design**	08:45 - 09:45
		Collective effects (mainly space charge & instabilities) *M. Migliorati and E. Chiadroni*	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*	**Accelerator design Workshop** *A. Oeftiger*		09:45 - 10:45
		Collective effects (mainly space charge & instabilities) *M. Migliorati and E. Chiadroni*	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*	**Accelerator design Workshop** *A. Oeftiger*		10:45 - 12:00
						12:00 - 13:15
AFTERNOON	**Networking event (during C1 this year as it was during C2 in 2026)**	**Accelerator design** *B. Härer*	**Accelerator design Workshop** *A. Oeftiger*	**Accelerator design Workshop** *A. Oeftiger*	**ORAL EXAMINATION Accelerator design**	13:15 - 14:15
		Accelerator design *B. Härer*	**Accelerator design Workshop** *A. Oeftiger*	**Accelerator design Workshop** *A. Oeftiger*		14:15 - 15:15
		Accelerator design *B. Härer*	**Accelerator design Workshop** *A. Oeftiger*	**Accelerator design Workshop** *A. Oeftiger*	**Accelerator design: Summary discussion** A. Oeftiger et al.	15:15 - 16:30
		Accelerator design Workshop *A. Oeftiger*	**Accelerator design Workshop** *A. Oeftiger*	**Accelerator design Workshop** *A. Oeftiger*	**Electron microscopy and diffraction** Seminar Simona Borelli	16:30 - 17:30

(COURSE 1) WEEK #5

	8 Feb. **Monday**	9 Feb. **Tuesday**	10 Feb. **Wednesday**	11 Feb. **Thursday**	12 Feb. **Friday**	
MORNING	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*		**Full-day trip to ESRF (with J.L. Revol)**	(09:30 - 10:30) **Free-Electron Lasers** Seminar *E. Prat Costa*	08:45 - 09:45
	Collective effects (mainly space charge & instabilities) *M. Migliorati and E. Chiadroni*	**Collective effects (mainly space charge & instabilities)** *M. Migliorati and E. Chiadroni*			(10:30 - 11:30) **Beam cooling** Seminar *Chris Rogers*	09:45 - 10:45
	Collective effects (mainly space charge & instabilities) *M. Migliorati and E. Chiadroni*	**GROUP1: CST-Xsuite case study** *D. Amorim and S. Joly* **GROUP2: Collective effects** *M. Migliorati*			(11:30 - 12:30) **CLOSING SESSION Course 1**	10:45 - 12:00
						12:00 - 13:15
AFTERNOON	**Injection / Extraction** *N. Carmignani*	**GROUP2: CST-Xsuite case study** *D. Amorim and S. Joly* **GROUP1: Collective effects** *M. Migliorati*			**Goodbye Apero/buffet**	13:15 - 14:15
	Injection / Extraction *N. Carmignani*	**Plasma Wakefield Acceleration** *Massimo Ferrario*	**WRITTEN (pen-and-paper) EXAMINATION 4/4 (14:15 - 16:15)** **All the other lectures**			14:15 - 15:15
	Injection / Extraction *N. Carmignani*	**Plasma Wakefield Acceleration** *Massimo Ferrario*				15:15 - 16:30
		Plasma Wakefield Acceleration *Massimo Ferrario*				16:30 - 17:30

(COURSE 2)

WEEK #6

juas

	15 Feb. **Monday**	16 Feb. **Tuesday**	17 Feb. **Wednesday**	18 Feb. **Thursday**	19 Feb. **Friday**	
MORNING		**Some reminders** *E. Métral*	**Introduction to RF** *A. Mostacci*	**RF Engineering** *A. Mostacci,* C. Vollinger	**RF Engineering** *A. Mostacci,* C. Vollinger	08:45 - 09:45
		Introduction to CERN practical days Magnet / SC / RF / Vacuum / CLEAR *J. Bauche, J. Fleiter, A. Mostacci, V. Baglin, A. Gilardi*	**Introduction to RF** *A. Mostacci*	**RF Engineering** *A. Mostacci,* C. Vollinger	**RF Engineering** *A. Mostacci,* C. Vollinger	09:45 - 10:45
		How to make the best use of AI and ML A. Oeftiger and R. Ischebeck, et al. (stbc)	**Introduction to RF** *A. Mostacci*	**RF Engineering** *A. Mostacci,* C. Vollinger	**RF Engineering** *A. Mostacci,* C. Vollinger	10:45 - 12:00
						12:00 - 13:15
AFTERNOON	**(13:00 - 14:45) ECLA**	**Normal Conducting Magnets** **INTRODUCTION (Lect. #1)** *T. Zickler*	**Introduction to RF** *A. Mostacci*	**RF Engineering** *A. Mostacci,* C. Vollinger	**Normal Conducting Magnets** **CASE STUDY #2** **(by sub-groups #6)** *J. Bauche, T. Zickler*	13:15 - 14:15
	(15:00 - 16:00) OFFICIAL OPENING (1/2): Presentation of ESI and JUAS *E. Métral, F. Mouthon, D. Baizhanova*	**Normal Conducting Magnets** **BASIC PRINCIPLES (Lect. #2)** *T. Zickler*	**Normal Conducting Magnets** **MAGNET CONSTRUCTION (Lect. #4)** *T. Zickler*	**Normal Conducting Magnets** **CASE STUDY INTRODUCTION (Lect. #7)** *J. Bauche, T. Zickler*	**Normal Conducting Magnets** **CASE STUDY #3** **(by sub-groups #6)** *J. Bauche, T. Zickler*	14:15 - 15:15
	(16:00 - 17:00) OFFICIAL OPENING (2/2): Introduction of students + ice breaking *E. Métral, F. Mouthon, D. Baizhanova*	**Normal Conducting Magnets** **MAGNET TYPES (Lect. #3)** *T. Zickler*	**Normal Conducting Magnets** **ANALYTICAL DESIGN (Lect. #5)** *T. Zickler*	**Normal Conducting Magnets** **CASE STUDY #1 (Cont'd)** **(by sub-groups #6)** *J. Bauche, T. Zickler*	**Normal Conducting Magnets** **CASE STUDY #4** **(by sub-groups #6)** *J. Bauche, T. Zickler*	15:15 - 16:30
	Free time for food shopping and refreshments	**Particle accel., instruments of discovery in physics** (Seminar) *P. Lebrun*	**Normal Conducting Magnets** **NUMERICAL DESIGN (Lect. #6)** *T. Zickler*	**Normal Conducting Magnets** **CASE STUDY #1 (Cont'd)** **(by sub-groups #6)** *J. Bauche, T. Zickler*	**The US Electron-Ion collider** (Zoom) Seminar *T. Satogata*	16:30 - 17:30
		International apero				17:30 - 18:30
						18:30 - 20:00

(COURSE 2)

WEEK #7

	22 Feb. **Monday**	23 Feb. **Tuesday**	24 Feb. **Wednesday**	25 Feb. **Thursday**	26 Feb. **Friday**	
MORNING	**RF Engineering** *A. Mostacci,* C. Vollinger	**RF Engineering** *A. Mostacci,* C. Vollinger	**Superconducting RF Cavities** *S. Calatroni*	**Superconducting magnets** *P. Ferracin*	**Superconducting magnets** *P. Ferracin*	08:45 - 09:45
	RF Engineering *A. Mostacci,* C. Vollinger	**RF Engineering** *A. Mostacci,* C. Vollinger	**Superconducting RF Cavities** *S. Calatroni*	**Superconducting magnets** *P. Ferracin*	**Superconducting magnets** *P. Ferracin*	09:45 - 10:45
	RF Engineering *A. Mostacci,* C. Vollinger	**Cryogenics for Superconducting devices** *P. Lebrun*	**Superconducting RF Cavities** *S. Calatroni*	**Superconducting magnets** *P. Ferracin*	**Superconducting magnets** *P. Ferracin*	10:45 - 12:00
						12:00 - 13:15
AFTERNOON	**Normal Conducting Magnets** **CASE STUDY** **(Oral presentation by group/students)** *J. Bauche, T. Zickler*	**Superconductivity (intro):** ***From solid state physics to technical materials*** *L. Bottura*	**Vacuum systems** V. Baglin	**Superconducting magnets** *P. Ferracin*	**Superconducting magnets** *P. Ferracin*	13:15 - 14:15
	Normal Conducting Magnets **CASE STUDY** **(Oral presentation by group/students)** *J. Bauche, T. Zickler*	**Superconductivity (intro):** ***From solid state physics to technical materials*** *L. Bottura*	**Vacuum systems** V. Baglin	**Vacuum systems** V. Baglin	**Vacuum systems** V. Baglin	14:15 - 15:15
	Normal Conducting Magnets **TUTORIAL** *J. Bauche, T. Zickler*		**Vacuum systems** V. Baglin	**Vacuum systems** V. Baglin	**Vacuum systems** V. Baglin	15:15 - 16:30
	Normal Conducting Magnets **TUTORIAL** *J. Bauche, T. Zickler*		**Future high-energy linear colliders** Seminar *P. Burrows*	**Vacuum systems** V. Baglin	**General challenges of superconducting magnets for the next step in HEP** Seminar *L. Bottura*	16:30 - 17:30

(COURSE 2) WEEK #8

	1 Mar. **Monday**	2 Mar. **Tuesday**	3 Mar. **Wednesday**	4 Mar. **Thursday**	5 Mar. **Friday**	
MORNING	**WRITTEN (pen-and-paper) EXAMINATION 1/4 (09:00 - 11:00)** **RF Engineering**	**Radiation safety** *X. Queralt*	**Radiation safety => Simulations** *X. Queralt*	**Beam instrumentation** *P. Forck*	**Beam instrumentation** *P. Forck*	08:45 - 09:45
		Radiation safety *X. Queralt*	**High Power Proton Linacs** *M. Eshraqi*	**Beam instrumentation** *P. Forck*	**Beam instrumentation** **P. Forck**	09:45 - 10:45
		Radiation safety => Simulations *X. Queralt*	**High Power Proton Linacs** *M. Eshraqi*	**Beam instrumentation** *P. Forck*	**Beam instrumentation** *P. Forck*	10:45 - 12:00
						12:00 - 13:15
AFTERNOON		**Visits at CERN (LINAC4 with Alessandra Lombardi and Jean-Baptiste Lallement; AD and ELENA with Christian Carli, Davide Gamba, Francois Butin; CLEAR with Antonio Gilardi and Wilfrid Farabolini; Thin film coating facilities with Bernard Henrist, Maria Carmen Giordano, Pedro Costa Pinto, Wilhelmus Vollenberg, Yorick Maxence Delaup)**	**Beam instrumentation** *P. Forck*	**Visit & Experimental work at Bergoz Instrumentation** E. Touzain	**Beam instrumentation** *P. Forck*	13:15 - 14:15
	WRITTEN (pen-and-paper) EXAMINATION 2/4 (14:15 - 16:15) **Magnets (Normal & Superconducting)** + report for NC from students to be given before (prep. for exam)		**Beam instrumentation** *P. Forck*		**Beam instrumentation** *P. Forck*	14:15 - 15:15
			Beam instrumentation *P. Forck*		**Beam instrumentation** *P. Forck*	15:15 - 16:30
			Energy recovery linacs Seminar *M. Arnold*			16:30 - 17:30
						17:30 - 18:00
		C2 APERO ALUMNI				18:00 - 19:30

(COURSE 2)

WEEK #9

	8 Mar. **Monday**	9 Mar. **Tuesday**	10 Mar. **Wednesday**	11 Mar. **Thursday**	12 Mar. **Friday**	
MORNING	**WRITTEN (pen-and-paper) EXAMINATION 3/4 (09:00 - 11:00)** **<u>Beam instrumentation</u>**	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Low Energy Accelerators** *W. Mondelaers*	**Acc. for medical & industrial applications** *E. Vanderkraaij*	08:45 - 09:45
		Practical days at CERN RF / SC / VACUUM / MAGNET / CLEAR	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Low Energy Accelerators** *W. Mondelaers*	**Acc. for medical & industrial applications** *E. Vanderkraaij*	09:45 - 10:45
		Practical days at CERN RF / SC / VACUUM / MAGNET / CLEAR	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Particle Sources** *T. Thuillier*	**Survey and Alignment of Accelerators** *Mateusz Sosin*	10:45 - 12:00
						12:00 - 13:15
AFTERNOON	***Reserved slot: Networking event (in case it could not take place during C1 on 01/02/27)***	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Particle Sources** *T. Thuillier*	**Survey and Alignment of Accelerators** *Mateusz Sosin*	13:15 - 14:15
		Practical days at CERN RF / SC / VACUUM / MAGNET / CLEAR	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Particle Sources** *T. Thuillier*	**Energy and sustainability for particle accelerators** *S. Claudet*	14:15 - 15:15
		Practical days at CERN RF / SC / VACUUM / MAGNET / CLEAR	**Practical days at CERN** RF / SC / VACUUM / MAGNET / CLEAR	**Particle Sources** *T. Thuillier*	**Energy and sustainability for particle accelerators** *S. Claudet*	15:15 - 16:30

(COURSE 2)

WEEK #10

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	15 Mar. **Monday**	16 Mar. **Tuesday**	17 Mar. **Wednesday**	18 Mar. **Thursday**	19 Mar. **Friday**	
MORNING	**ORAL EXAMINATION** **Practical days @CERN**	**WRITTEN (pen-and-paper) EXAMINATION 4/4 (09:00 - 11:00)** **All the other lectures**	**Trip to PSI (for 2 days)**	**Visit of PSI with R. Ischebeck. Lectures on accelerator controls (Elke Zimoch) and ProScan + Some seminars**	(09:30 - 10:30) **Accelerator driven system** Seminar *Ulrich Dorda*	08:45 - 09:45
					(10:30 - 11:30) **AWAKE** Seminar *E. Gschwendtner*	09:45 - 10:45
					(11:30 - 12:30) CLOSING SESSION Course 2	10:45 - 12:00
						12:00 - 13:15
AFTERNOON		**Visit to Geneva Hospital with 1 seminar (see below)**	**Visit of PSI with R. Ischebeck. Lectures on accelerator controls (Elke Zimoch) and ProScan + Some seminars**	**Trip back from PSI**	**Goodbye Apero/buffet**	13:15 - 14:15
						14:15 - 15:15
		Radiation Oncology: Biology, Physics & Clinical Applications (Seminar) *A. Durham*				15:15 - 16:30
						16:30 - 17:30
						18:30 - 19:30