

## Study program short plan for discussion at 2nd meeting of CBG

1. Masters or Doctoral level study program or both?
2. Motivation for the study program creation
  - a. Preparation of professionals for particle accelerator related industry
  - b. Preparation of professionals for scientific institutions
  - c. Particle Physics community strengthening
3. Motivation for students to apply for the study program –
  - a. Acquired knowledge/skills
  - b. Future prospects of the students
  - c. Possibility to have training/research at CERN
  - d. Possibility to have stipendium
  - e. Most of the master level students are working – how that would affect application and mobility – would there be interest at student mobility at all?
  - f. CERN lecturers possible attraction for the program – motivation alongside with organizational questions
4. What would be the „ideal” program – what should we teach, what skills should be acquired?
5. What are the competences/skills that can be acquired right now – survey of existing study courses, research thematic, individual researchers
6. From here the reason for mobility should arise (or vice versa).
7. The legal status of the program –
  - a. Joint study program with appropriate funding
  - b. Realization of the joint program on bilateral agreements and mobility of students
  - c. Adaption of existing study program to suit the outcomes of the study.
8. Student application to the program
  - a. Students apply to one joint program at their „home” universities, and their applications are evaluated by joint application committee
  - b. Students apply to the study program at their „home” university and are informed and encouraged for mobility
  - c. How the process could be realized – 80 Credit points in 4 semesters – 20 of that for masters thesis preparation.
  - d. How many participants could be realizing the program?
9. The movement of the „student flows” or „lecturer flows” between the universities and countries?
  - a. Students move from one institution of to another spending a study semester there
  - b. Students study spending most of their time at their „home” institution and go for mobility to acquire knowledge available at partner universities
  - c. How the accommodation would be organized, how the expenses would be covered?
  - d. Lecturer mobility based mobility with either lecturer mobility for teaching or video conference learning based study process.

10. How the funding for the study program is provided and how the cash flows are distributed between participants –
- Expenses for the study program – feasibility of the study program – how many students should study for each case?
  - Sustainability of the study program
  - Students pay for the study. Non Baltic state student possible involvement. Government funding for talented students.
  - External funding for student studies from ministries or other sources depending on specific participant funding process
  - Distribution of funding for student education for different study courses at different institutions depending of the chosen model
11. Dedicated personnel for study program creation.

Table 1.

Subjects for Particle Physics and Accelerator Technology Masters level study program

<b>Part A</b>	<b>Course</b>	Credit points
1	Modern physics problems	2
2	Fundamentals of material science	3
3	Fundamentals of relativity and cosmology	2
4	Physical methods of natural sciences and technologies	3
5	Elementary Particle Standard Model	2
6	Accelerator Physics	2
7	Particle Accelerator Technology - Basic course	3
8	Particle Detectors	3
<b>Part B</b>	<b>Course</b>	
1	Nuclear Physics	4
2	Nuclear physics and elementary particles	4
3	Dosimetry	2
4	Processing of experimental data	10
5	Positron Emission Tomography - Computed Tomography (PET/CT) instrumentation	4
6	Particle Accelerator Technology - Advanced course	3
7	Production of Radioisotopes	3
8	Radioecology and environmental protection	2
9	High Vacuum Technologies	2
10	HV and RF technology	4

	RF cavity design	2
12	Legislation on radiation safety and nuclear safety	2
13	Radiochemistry and radiation chemistry	3
14	Physical control methods	2
15	Accelerator power sources	2
16	Magnets for accelerators	2
17	Beam instrumentation	2
18	Accelerators for industrial applications	2
19	Accelerators for medical applications	2
20	Medical Radiology	2
21	Course work	2
	Master's thesis	20
	Credit points	97