

## DRAFT OUTLINE (v3) FOR THE ATS-IPT INNOVATION COURSE 30.10-18.12.2017

### **Introduction**

One of the four founding pillars of CERN's mission is education, and more specifically, the aim to contribute to the education and training of next generation of scientists, innovators and entrepreneurs. Having this in mind, ATS ([HiLumi](#) and FCC) in collaboration with the [Knowledge Transfer Group](#) and [IdeaSquare](#) in IPT Department, offers the opportunity to help to put gained CERN-specific technical knowledge for potential use also outside CERN.

### **Purpose & Aim**

The purpose of the Innovation Course is to let students, young graduates and young professionals explore the potential use of their gained knowledge outside the CERN-context and to familiarize them with established innovation practices. The aim is to inspire students/young professionals to think "outside the box" and teach them basic skills how to think like an innovator and an entrepreneur, thus offering them new skills and competences which they may find useful later on in their careers.

### **Structure of the Course**

The Course has two main parts; a general introduction to topics such as Knowledge Transfer [opportunities](#) at CERN, [Design Thinking](#)-inspired Innovation practices, including a cycle of rapid prototyping ([Raspberry P](#), [NI-myRIO](#), 3D printers etc.) and opportunities for linking academia with industry. The second part involves working in teams on selected application or innovation topics over a period of several weeks, also interacting with other visiting students at IdeaSquare from other fields such as product design, business management and engineering (so-called [CBI program](#)). The second part culminates in each team producing a conceptual prototype and presenting it to an invited technical audience at CERN. Participants will receive a diploma following demonstrated participation during the course.

## DRAFT PROGRAMME

### Day 1. Wednesday, January 31, 2018

Time	Activity	Activity leader(s)
09.00	Welcome to IdeaSquare! <ul style="list-style-type: none"> <li>Purpose and Aims of the Course, organization of work</li> <li>IS: Unique environment, "license to think", rapid prototyping</li> </ul>	Isabel Bejar, Outi Heloma, Markus Nordberg, Harri Toivonen
10.00	Warm-up team exercise I (Design Thinking & Rapid Prototyping)	Harri Toivonen
11.00	How can CERN technologies be used outside CERN (I)? <ul style="list-style-type: none"> <li>KT Portfolio examples, searching techniques</li> </ul>	KT Group
12.30	Lunch	
14.00	How can CERN technologies be used outside CERN (II)? WU student project methodology and results	Vienna University/ATS Group
15.30	Team exercise II <ul style="list-style-type: none"> <li>What questions should I ask related to my own field of expertise? Where to look for the answers?</li> </ul>	Harri Toivonen, KT Group
17.00	Presentation of team results	Harri Toivonen
18.00	End of Day I	

### Day 2. Thursday, February 1, 2018

Time	Activity	Activity leader(s)
09.00	Introduction to Day II	Outi Heloma
09.15	How can CERN technologies be used outside CERN (III)? <a href="#">QUACO</a> and PCP as an approach to interest potential industrial partners	Marcello Losasso
10.00	Presentations of KT and IdeaSquare student programs and how ATS students can get involved and how to benefit from these programs	KT Group, Harri Toivonen
11.00	Team exercise III <ul style="list-style-type: none"> <li>Identifying idea(s) to work on</li> </ul>	KT Group, Harri Toivonen
12.30	Lunch	KT Group, Harri Toivonen
14.00	Team exercise III (cont'd) <ul style="list-style-type: none"> <li>Creating the teams with suitable composition <ul style="list-style-type: none"> <li>Action Plan</li> </ul> </li> </ul>	KT Group, Harri Toivonen
16.00	Presentation of results	KT Group, Harri Toivonen
17.00	End of Day II	Isabel Bejar

Team workshops, working on their ideas, prototyping, presenting results

Date	Activity (18.00-20.00)	Activity leader(s)
14.2.2018	Working on idea/prototype	ATS, KT-Group
21.2.2018	Working on idea/prototype	ATS, KT-Group
28.2.2018	Working on idea/prototype	ATS, KT-Group
7.3.2018	Working on idea/prototype ("dress rehearsal")	Harri Toivonen
21.3.2018	Presentation of results to invited audience	ATS