

An iPodia Course to Develop GCSP Competencies Globally

A multi-school, co-curricular, global course
 proposed by the Viterbi iPodia Program (www.ipodia.usc.edu)
 Viterbi School of Engineering, University of Southern California (VSoE/USC)

The NAE **Grand Challenges Scholars Program** (GCSP) has identified five key areas of **competency requirements** of future engineers that are needed to meet the **14 Grand Challenges for Engineering**.

The task of developing these GCSP competencies should be jointly addressed by higher-education institutions as a **global movement** that engages and cultivates a truly diverse group of students.

VSoE/USC invites interested GCSP and iPodia universities to jointly develop and offer a **GCSP iPodia course** that focuses on preparing students with GCSP competencies to fulfill this critical need.

What is iPodia, and the iPodia Alliance?

iPodia is an education innovation by VSoE/USC:

- It creates “**classrooms-without-borders**” for all students to enjoy “**no-distance learning**” across physical, institutional, and cultural boundaries
- The iPodia Alliance (www.ipodialliance.org) was established in 2012, and presently has 13 global university members in five different continents



How to develop and offer iPodia courses?

All iPodia courses are developed/implemented via:

- Cyber-physical **platform** (interconnected, interactive)
 To link multiple classrooms over the campus Internet for remote students to take synchronized classes joint as if they were studying together on the same campus
- Peer-learning **pedagogy** (inverted, inclusive)
 To guide students through a 24/7 learning cycle of self-study of contents at home, cohort discussion of contexts online, and interactive exercise with peers in-class
- Multi-school **program** (interdisciplinary, international)
 To share/leverage complementary learning resources from partner universities, and expand disciplinary and cultural diversities in connected classrooms on multiple campuses

Why use iPodia for GCSP competencies?

The GCSP Competency	The i-Learning Strengths provided by the iPodia Model				
	Inverted	Interactive	Inclusive	Interconnected	International
Multi Disciplinary		√	√ √	√ √ √	
Multi Cultural		√	√ √		√ √ √
Research Creativity	√	√ √ √		√ √	
Business Entrepreneurship	√			√ √ √	√ √
Social Consciousness	√ √		√ √ √		√

Notation: √ √ √ -- highly relevant / √ √ -- relevant / √ -- moderately relevant

How to develop new GCSP iPodia courses?

Interested GCSP and iPodia universities collaboratively

- Create a co-curricular **program** to jointly develop for-credit courses, focusing on acquiring GCSP competencies for a few selected grand challenges as the learning outcomes
- Accustom the GCSP contents with the iPodia peer-learning **pedagogy**, which exploits learner diversity as learning resource, to gain contextual and mutual understanding
- Deliver GCSP iPodia courses via the iPodia **platform**, that connects multiple classrooms for students to learn together with their global classmates on local campuses directly

Peer-learning in GCSP competency modules

- **Lectures and Discussions**
 Students self-study contents with learning feedbacks to be used to assemble and guide their online **cohort** discussions
- **Group Exercises of Grand Challenges Cases**
Groups work on real-world cases to explicit the impacts of diversities on the studies and solutions of grand challenges
- **Cross-Campus Team Projects**
 Cross-campus **teams** practice the GCSP competencies by developing innovative global solutions for grand challenges

The first GCSP iPodia course will be developed in spring 2017 and offered in fall 2018

Please contact Yannis Yortsos (yortsos@usc.edu) or Stephen Lu (sclu@usc.edu) regarding how your university can participate in this global movement to educate the “world changers” for Grand Challenges for Engineering.