

University POLITEHNICA of Bucharest



National Academy of Engineering

Washington, USA

Grand Challenges Scholars Program

National Academy of Engineering (NAE)

Leadership in a World of Accelerating Change
Washington, DC, USA

Grand Challenges Scholar Program Program
NAE GRAND CHALLENGES FOR ENGINEERING 2008

aspirational vision of what engineering needs to
deliver to all people on the planet in the 21st
century

14 GOALS that the NAE recognized as necessary
to deliver this vision



NAE
GRAND
CHALLENGES FOR
ENGINEERING™
<http://www.engineeringchallenges.org/>

HEALTH

JOY OF LIVING

SUSTAINABILITY

SECURITY

CROSS-CUTTING CONCERNS around the world
21st century



ACCEPTANCE CRITERIA

More precisely...



Good results, no more than 1 failed subject

Outside the faculty interests: volunteering, contests, performance in the field

Previous participation in the Scientific Student Communication

Proven interest and enthusiasm

No other commitments, such as full-time or part-time jobs

A minimum GPA of 2.5

ADMINISTRATIVE ORGANISATION

GCSP



Coordination Committee

5 persons nominated by the Administration board of UPB

the Committee will nominate a director quarterly meetings



Financing activities

integrated programs

insured by UPB by own funds, Erasmus programme, dedicated programs from the Ministries of National Research and Education, sponsoring from companies



Administration of the program

student management, results

centralization

Student Entrepreneurial Society



International representation

the Global Challenges Summit

the annual GCSP meeting

University POLITEHNICA of Bucharest – GCSP program

WHY?



Data Analysis

the NAE does not dictate an engineering curriculum



Creation

each university defines its supplemental approach to educating its students



Implementation

strengths and resources to instill the five competencies
5 extra - curricular competencies



Results

global engineer/FUTURE leader

5 extra - curricular competencies

HOW to DO? What?

(3rd year and 4th year)

14 GCSP themes

Mentored Research

- learn the "how to do" - research



Entrepreneurship

- necessity of a business model for solution implementation
- courses, mentorship
- Innovation Labs



Social Consciousness

- focus on the social impact of the GCSP topic
- volunteering activity



Multidisciplinarity

- courses ethics, culture, related topic
- internship



Multicultural

- Erasmus mobility
- extra mobility Asia/Africa/South America
- integrating 1 foreign language

Final GCSP program

UPB – GCSP program


Indicators for the 5 competencies

Mentored Research Multidisciplinarity Entrepreneurship Multicultural Social Consciousness



3rd year and 4th year





“ The world needs new leadership,
but the new leadership is about
working together. ”

Jack Ma



University POLITEHNICA of
Bucharest

VISION UPB

valuable scientific, technical and cultural knowledge

the technological, economical and social-cultural progress of the society and the world

VISION for GCSP

future education, research, creativity and innovation

for a more tolerant, safe, sustainable and healthy world



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Thank you for your attention



**NAE GRAND CHALLENGES
FOR ENGINEERING**
NATIONAL ACADEMY OF ENGINEERING