**Grand Challenges Scholar Application Form**

The National Academy of Engineering has identified 14 challenges for engineers of the future. This list includes issues such as: making solar energy economical; advancing health informatics; providing access to clear water; and reverse engineering the brain. The National Academy of Engineering is proposing that engineering schools around the world create programs that combine curricular and co‐curricular activities that address these challenges. The Grand Challenges Scholar Program aims to recognize graduating seniors who have engaged in educational and co‐curricular activities surrounding these grand challenge topics. **Qualified applicants will receive a letter from the National Academy of Engineering recognizing them as GC Scholars, and will be awarded the GC Scholars Fellowship.**

Please complete the following application explaining your contributions towards addressing the grand challenges and your development of the 5 competencies of GCSP.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name in **Chinese** |  | Student No. |  | Gender | [ ]  Male |
| [ ]  Female |
| Major |  | Department |  | Photo |
| GPA |  |
| Contact Info | Cell phone | Email |
| Research/Thesis Advisor | Name |

**Indicate your Grand Challenges area of focus and explain your contributions to address the challenge:**

**Sustainability:**

* Making solar energy economical
* Providing energy from fusion
* Developing carbon sequestration methods
* Managing the nitrogen cycle
* Providing access to clean water

**Security:**

* Securing cyberspace
* Preventing nuclear terror
* Restoring and improving urban infrastructure

**Health:**

* Engineering Better Medicines
* Advancing Health Informatics
* Reverse engineering the brain

**Joy of Living:**

* Enhancing virtual reality
* Advancing personalize learning
* Engineering the tools of scientific discovery

**Other (if “Other” chosen for Grand Challenges Theme, please describe the theme at below)**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Explain your contributions to address the challenge (add more pages if needed):**

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**Please pick up at least 3 out of the 5 competencies and describe your development of those competencies.**

**RESEARCH/CREATIVITY**

Research or project experiences related to a Grand Challenge. Please describe any and all projects or research you have participated in related to an identified Grand Challenge.

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**MULTIDISCIPLINARITY**

Participation in an “engineering plus” curriculum that prepares engineering students to work at the overlap between engineering and non‐engineering disciplines. Describe enrollment in courses outside the engineering curriculum that will complement the technical curriculum such as public policy, business, law, ethics, art, sociology, natural sciences, etc. This could include pursuing a minor or enrolling in courses connected to Grand Challenge themes

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**ENTREPRENEURSHIP**

Understanding gained through experiencing viable business models. Students should be exposed to the process of translating invention to innovation; to develop market ventures that scale to global solutions to the Grand Challenges.

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**MULTICULTURAL/GLOBAL PERSPECTIVE**

Understanding gained through global or different cultural (global or local) experiences that develops the perspective necessary to understand global challenges or that lead to innovations in a global economy.

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**SOCIAL CONSCIOUSNESS/SERVICE LEARNING**

Addressing societal problems through service learning, and/or social entrepreneurship. Participation in a curricular or co-curricular component that deepens social awareness and develops the motivation to bring technical expertise to bear on societal problems.

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**You can add more pages to describe your development of the above competencies.**