

SCU Grand Challenges Scholars Program

Get ready to change the world! The Grand Challenges are a call to action and serve as a focal point for society's attention to opportunities and challenges affecting our world in the 21st Century. With an innovative mindset, YOU can make a difference.

The Grand Challenges Scholars Program is a special initiative of the National Academy of Engineering, the preeminent engineering organization in the world. The SCU School of Engineering joins 68 other universities in delivering this unique program for qualified SCU engineering students.



NAE GRAND CHALLENGES
FOR ENGINEERING

Program Requirements:

The National Academy of Engineering requires all Grand Challenges Scholars to complete five sets of broadening and high-engagement activities relating to one or more Grand Challenges.

- **Research or Major Project:** Scholars must initiate, complete and communicate a research or project-based experience related to one or more Grand Challenges.
- **Global Perspective:** Scholars must complete a multicultural experience in order to understand the global aspects of the problem they are trying to solve and the contextual challenges to implementing solutions.
- **Interdisciplinary:** Scholars must complete activities where they experience and connect different fields along one or more of the Grand Challenges.
- **Social Consciousness:** Scholars must complete an approved service learning experience that ideally will provide experiential learning with the people and organizations that are most strongly affected by the Grand Challenges, now and in the future.
- **Entrepreneurship:** Scholars must complete curricular or extra-curricular entrepreneurial programs, focused around translating innovation into practical solutions that add value to people's lives.



TALENT



MULTIDISCIPLINARY



MULTICULTURAL



SOCIAL CONSCIOUSNESS



ENTREPRENEURSHIP



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Engineers, scientists and mathematicians have always been on the front lines when it comes to solving the world's toughest problems.

What are benefits of participating?

SCU Engineering students who complete the program will achieve the distinction of Grand Challenges Scholar, endorsed by both SCU and the NAE, and will be uniquely prepared to collaborate and succeed in a transdisciplinary and global environment. GC Scholars are part of a selective group recognized by faculty, classmates, graduate schools and especially employers for engaging in a transformative set of engineering, educational, and leadership experiences.

Consider joining the Grand Challenges Scholars if you:

- Care deeply about the social impact of your work
- Want to play a vital role in improving conditions in your communities and beyond
- Are intellectually curious and committed to learning in a variety of contexts across disciplines

Who is eligible?

Applications are open to all undergraduate students, with preference given to first- and second-year students. Applicants further along in the curriculum are also welcome to apply and encouraged to demonstrate that they have already fulfilled some of the program requirements and can complete the rest before graduation.

Each application will be reviewed upon the strength of the proposal including plans for addressing each of the elements of the program and connecting them together with their chosen Grand Challenge.

The 14 Grand Challenges:

- Make Solar Energy Economical
- Provide Energy from Fusion
- Develop Carbon Sequestration Methods
- Manage the Nitrogen Cycle
- Provide Access to Clean Water
- Restore and Improve Urban Infrastructure
- Advance Health Informatics
- Engineer Better Medicines
- Reverse-Engineer the Brain
- Prevent Nuclear Terror
- Secure Cyberspace
- Enhance Virtual Reality
- Advance Personalized Learning
- Engineer the Tools of Scientific Discovery

Empowering SCU students to improve and enhance their leadership skills and increase their social/global awareness

www.scu.edu/engineering/grandchallenges



Santa Clara University