**Engineering Attitudes Survey**

# For the following, please indicate how much you agree with each statement.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree |
| Engineers help to make the world a better place. | **○** | **○** | **○** | **○** |
| Society values the work engineers do. | **○** | **○** | **○** | **○** |
| Engineers have few other interests beyond their work. | **○** | **○** | **○** | **○** |
| Engineers are dedicated people who work for the good of humanity. | **○** | **○** | **○** | **○** |
| Engineering is an occupation that is respected by other people. | **○** | **○** | **○** | **○** |
| Engineers are helping to solve challenging problems. | **○** | **○** | **○** | **○** |
| Engineers are well paid. | **○** | **○** | **○** | **○** |
| Engineering is boring. | **○** | **○** | **○** | **○** |
| Most engineers want to work on things that will make life better for the average person. | **○** | **○** | **○** | **○** |
| Engineers have a lot of influence over other people. | **○** | **○** | **○** | **○** |
| My work as an engineer will make a difference to others. | **○** | **○** | **○** | **○** |
| Engineers have a lot of control over their organization or work group. | **○** | **○** | **○** | **○** |
| I expect that engineering will be a rewarding career. | **○** | **○** | **○** | **○** |
| Engineering contributes to the well-being of society. | **○** | **○** | **○** | **○** |
| Engineers are recognized by others for what they do. | **○** | **○** | **○** | **○** |
| A career in engineering would allow me to help others. | **○** | **○** | **○** | **○** |
| Engineering will allow me to show my skills and competence. | **○** | **○** | **○** | **○** |

# Which of the following trends, social problems, or challenges in engineering do you find interesting?

|  | Don’t know what this is | Not interesting | Somewhat interesting | Interesting | Extremely interesting |
| --- | --- | --- | --- | --- | --- |
| Advance health informatics | **○** | **○** | **○** | **○** | **○** |
| Advance personalized learning | **○** | **○** | **○** | **○** | **○** |
| Create new nanotechnology and nanomaterials | **○** | **○** | **○** | **○** | **○** |
| Create tools that advance scientific discovery | **○** | **○** | **○** | **○** | **○** |
| Develop carbon sequestration methods | **○** | **○** | **○** | **○** | **○** |
| Engineer better medicines | **○** | **○** | **○** | **○** | **○** |
| Enhance virtual reality | **○** | **○** | **○** | **○** | **○** |
| Explore space through privately funded organizations | **○** | **○** | **○** | **○** | **○** |
| Make solar energy economical | **○** | **○** | **○** | **○** | **○** |
| Manage the nitrogen cycle | **○** | **○** | **○** | **○** | **○** |
| Preserve wildlife and/or environmental resources | **○** | **○** | **○** | **○** | **○** |
| Prevent nuclear terror | **○** | **○** | **○** | **○** | **○** |
| Provide access to clean water | **○** | **○** | **○** | **○** | **○** |
| Provide energy from fusion | **○** | **○** | **○** | **○** | **○** |
| Restore and improve urban infrastructure | **○** | **○** | **○** | **○** | **○** |
| Reverse-engineer the brain | **○** | **○** | **○** | **○** | **○** |
| Secure cyberspace | **○** | **○** | **○** | **○** | **○** |

**3b. What are some other technological advances you are excited about contributing to?**

# Nanotechnology, including nanomaterials, is a key area of engineering research. For the following, please indicate the degree to which you are confident you could do the tasks.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Definitely cannot do | Somewhat confident | Confident | Highly confident |
| Name a nanoscale-sized object | **○** | **○** | **○** | **○** |
| Describe one way nanotechnology directly impacts my life | **○** | **○** | **○** | **○** |
| Name a field of study that currently conducts nanotechnology research | **○** | **○** | **○** | **○** |
| Describe one way nanotechnology may benefit society/humankind | **○** | **○** | **○** | **○** |
| Name an application of nanotechnology | **○** | **○** | **○** | **○** |
| Describe a process to manufacture objects at the nanoscale | **○** | **○** | **○** | **○** |
| Name an instrument used to make measurements at the nanoscale | **○** | **○** | **○** | **○** |
| Describe one way nanotechnology may directly impact my life in the future | **○** | **○** | **○** | **○** |

# How important are the following career goals to you personally?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Not at all important | Somewhat important | Important | Extremely important |
| Having power or influence | **○** | **○** | **○** | **○** |
| Serving humanity | **○** | **○** | **○** | **○** |
| Being independent | **○** | **○** | **○** | **○** |
| Using creativity | **○** | **○** | **○** | **○** |
| Working with people | **○** | **○** | **○** | **○** |
| Competing with others | **○** | **○** | **○** | **○** |
| Serving the community | **○** | **○** | **○** | **○** |
| Demonstrating skill or competence | **○** | **○** | **○** | **○** |
| Having fun | **○** | **○** | **○** | **○** |
| Connecting with others | **○** | **○** | **○** | **○** |
| Having social status | **○** | **○** | **○** | **○** |

# 5. Nano-related knowledge: Please answer to the best of your knowledge. If you don’t know an answer, please indicate “don’t know”.

1. The number of nanometers in one meter is:

1. one hundred thousand.
2. one million.
3. ten million.
4. one billion.
5. *don’t know*

2. Nanoparticles have a(n) \_\_\_\_\_\_\_ surface area compared to their volume.

1. small
2. medium
3. large
4. equal
5. *don’t know*

3. Because of their surface area to volume ratio, nanoparticles are able to:

1. interact more slowly with substances around them.
2. interact more quickly with substances around them.
3. interact only with metals.
4. interact only when hydrogen ions are present.
5. *don’t know*

4. Materials made with the use of nanotechnology are often:

1. very strong.
2. very cold.
3. very soft.
4. all of the above.
5. *don’t know*

5. You can see nanoparticles with:

1. your naked eye.
2. a strong magnifying glass.
3. an ordinary compound light microscope.
4. scanning electron microscope (SEM).
5. none of the above.
6. *don’t know*

6. Scientists have observed that the small size of nanoparticles makes them very efficient at:

1. conducting electricity.
2. transmitting heat energy.
3. transmitting chemical energy.
4. all of the above.
5. none of the above.
6. *don’t know*

# 6. Which of the following describe you?

 **○** Prefer not to answer these questions

 Gender: **○** Female **○** Male

 Hispanic/Latino: **○** Yes **○** No

 Race/Ethnicity: **○** African-American or Black

 **○** Asian or Pacific Islander

 **○** American Indian or Alaska Native

 **○** White

 **○** Multi-racial

 **○** Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7. Matching information:** We need to match your responses to those you will give at the end of the week. In order to match responses without directly identifying you, please provide the following details.

Your initials (including middle initial): \_\_\_\_\_\_\_\_\_\_

Month you were born: \_\_\_\_\_\_\_\_\_\_\_