

**North Suburban Chapter, Illinois Society of Professional Engineers  
2018 Scholarship Application**

Our chapter will be awarding 2 - \$1000 scholarships this coming spring.

Eligibility Requirements:

1. Be a High School Senior.
2. Be a United States Citizen at time of application.
3. Have a minimum of 3.5 grade point average (out of 4.0).
4. Attain a minimum test score of:  

Scholastic Aptitude Test (SAT) of                    600 Math, 500 Verbal or  
American College Testing Program (ACT) of   29 Math,   25 Verbal
5. Enroll in an engineering program at a university/college that has been accredited by the Engineering Accreditation Commission of the Accreditation Board of Engineering and Technology (ABET-EAC).
6. Live in our Chapter area – in general, North Suburban Cook County, outside of Chicago, north of North Avenue.

Assemble the completed application according to the checklist on page 5. Mail it to:

Dan E. Monnier, P.E.  
204 East Hackberry Drive  
Arlington Heights, Ill. 60004-1550

Applications must be received by **March 1<sup>st</sup>, 2018**.



**North Suburban Chapter, Illinois Society of Professional Engineers  
2018 Scholarship Application**

Name: \_\_\_\_\_

**Extracurricular Activities** *List on/off campus extracurricular activities during high school, including any position held, such as President, Secretary, etc. List engineering related activities and work experience first. Use additional sheets, if necessary.*

Month/Year to Month/Year	Activity	Most Significant Contribution

**WORK EXPERIENCE:** *List Employment during high school and summer break*

Month/Year to Month/Year	Place of Employment Name of Supervisor/Ph. No	Job Duties/Hours Worked

**HONORS AND SCHOLARSHIPS:** *May or May not be academic-related*

Month/Year	Sponsor	Name of Award	Reason for Receipt of Award

**North Suburban Chapter, Illinois Society of Professional Engineers  
2018 Scholarship Application**

Name \_\_\_\_\_

**FINANCIAL INFORMATION:** *How do you plan to finance your education and living expenses for your freshman year?*

Estimated Cost	Savings	Grants	Scholarships	Family Support	Loans you are Legally required To repay
\$	%	%	%	%	%

Are there any family/financial responsibilities that we should consider when reviewing your application?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Do the following **Problem:**

Imagine you are the Professional Engineer for a city of 45,000 people and you have been told that the agreement to supply drinking water to your town will expire at the end of the year. The Mayor has asked you to develop conceptual ideas for the design of a potable water treatment facility to serve the town. You know the following facts:

Your town sits near a lake which is continuously fed by a local stream. The lake is also used for recreational activities such as fishing, boating and swimming.

Lake water is fairly clean, but can be silty at times and can grow algae and lily pads near the shore. Assume there may be low levels of organic contaminants in the lake due to prior manufacturing upstream. During the summer, iron dissolved in the water and can be a taste issue.

The distribution infrastructure in the town already exists and is in good shape.

Distribution booster pumps are existing and in good shape. Sufficient electrical power is available for any new equipment.

There are two parcels of land available. One is a wetlands, and the other parcel is part of your town's scenic nature area.

(Continued)

**North Suburban Chapter, Illinois Society of Professional Engineers  
2018 Scholarship Application**

Name \_\_\_\_\_

**Tasks:**

1. Research potable water treatment systems. Determine what type of treatment your facility may need. Document your sources.
2. Sketch out a Block Flow Diagram showing how treatment will progress from lake to the end user. Include water flow rates.
3. Provide a written report of no more than 3 typed pages to the Mayor discussing your concepts above. At a minimum, include the following:
  - a. What key issues must you consider with a water intake?
  - b. Will you need to add any treatment chemicals? If so, what kind?
  - c. How would you handle the organics? The iron?
  - d. Which parcel of land would you select? Why?
  - e. Will you need any clean water storage? If so, how much?

**Tips:**

1. Start work early and do a little bit each week.
2. How clean does the water need to be? You can contact your village or Town to see what information they have on your current water supply.

Scholarship winners will be able to give a 15 minute presentation of their ideas at our Chapter meeting in May 2018 and discuss concepts further with our members.

Include the following in your Scholarship Application. Do not use a report binder

1. This completed Application
2. Recommendations of 2 Teachers (at least 1 by a Math or Science teacher)
3. Employer Recommendation (optional)
4. Solution to the Problem, no more than 3 typed pages, plus diagram.
5. Official Transcripts (must be in sealed envelope)
6. SAT/ACT scores. Attach official score sheet

**North Suburban Chapter, Illinois Society of Professional Engineers  
2018 Scholarship Application**

Name \_\_\_\_\_

**REQUIRED INFORMATION:** (Signatures) Applications without required signatures will be disqualified.

Scholarship Applicant:

I authorize my school officials to give information about my academic records to ISPE, North Suburban Chapter.

Yes \_\_\_\_\_ No \_\_\_\_\_

To the best of my knowledge, the information presented in this application is complete and true.

\_\_\_\_\_  
(Applicant's Signature)

\_\_\_\_\_  
(Date)

Principal/Guidance Councilor Certification:

I certify that the academic information presented in this application is complete and true and that the applicant meets the stated eligibility requirements.

I certify that the applicant is a U.S. citizen.

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

High School: \_\_\_\_\_

Phone #: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Date: \_\_\_\_\_