

**Will you be a junior or senior in Math Education in  
Fall 2009?**

**Would you consider getting a Minor in Engineering?**

**You could receive a \$20,000 Two Year Scholarship  
to become a math teacher with an engineering  
background**

*Having an engineering background would enable you to  
...know more about how math is used  
...give back to your community,  
...impact young people and  
...help change lives.*

The Robert Noyce Scholarship Program is all about developing math teachers with an engineering background to make a difference in their communities as teacher-engineers.

If you'd seriously consider earning a minor in engineering along with your math teaching certificate, you might be eligible for a Two-year Scholarship worth a total of \$20,000. You also may be eligible for forgiveness of certain student loans

PLUS after graduation you may have opportunities to work as an engineer for summer pay, AND you will receive mentor help, support and encouragement after you graduate.

Interested?

Contact:

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**APPENDIX**  
**Minor in Engineering**  
College of Engineering and Architecture, Washington State University

**Suggested lower division engineering classes (a minimum of 8 credits):**

(2) Engr 120—**Innovation in Design**—Engineering and architectural creativity; role, function, enhancement, integration in design methods.

**OR**

(2) MSE 110—**Introduction to Materials Sciences**—Introduction to the science and technology of metals, polymers, ceramics and composites.

**OR**

(3) ME 103—**Engineering Graphics and Computer-Aided Design (1-6)**—Orthographic theory, conventions, and visualization; isometric and oblique pictorials; geometric dimensioning and tolerancing, computer-aided drafting and solid modeling.

(3) ChE 201—**Chemical Process Principles and Calculations**—Prereq Chem 106; Math 172 or c//. Fundamental concepts of chemical engineering; problem-solving techniques and applications in stoichiometry, materials and energy balances, and phase equilibria.

(3) CE 211—**Statics**—Prereq Math 172 or c//; Phys 201 or c//. Engineering mechanics concepts; force systems; static equilibrium; centroids, centers of gravity; shear and moment diagrams; friction; moments of inertia.

(3) ME 212—**Dynamics**—Prereq CE 211. Kinematics and kinetics of particles and rigid bodies; introduction to mechanical vibration.

(3) EE 214—**Design of Logic Circuits (2-3)**—Prereq CptS 121 or 251. Design and application of combinational logic circuits with exposure to modern methods and design tools; introduction to sequential logic circuits.

(3) EE 261—**Electrical Circuits I**—Prereq Math 315 or c//; Phys 202; c// in EE 262. Application of fundamental concepts of electrical science in linear circuit analysis; mathematical models of electric components and circuits.

(1) EE 262—**Electrical Circuits Laboratory I**—Prereq EE 261 or c//. Electrical instruments; laboratory applications of electric laws; transient and steady-state responses of electrical circuits.

**Suggested upper division engineering classes (a minimum of 9 credits):**

(3) ME 301—**Fundamentals of Thermodynamics**—Prereq Phys 201; Rec Math 315. Thermodynamic properties of matter, ideal and real gases, work and heat, first and second laws and their application to engineering systems.

(3) ME 313—**Engineering Analysis**—Prereq Math 315, major in engineering; computer science programming. Analysis and modeling of engineering problems utilizing numerical and mathematics techniques and computers.

(3) CE 315—**Fluid Mechanics**—Prereq ME 212; Math 315. Fluid statics, laminar and turbulent flow, similitude, pipe flow, boundary layer, lift and drag and measurement techniques.

(3) CE 351—**Water Resources Engineering**—Prereq CE 315. Application of fluid mechanics to hydraulic infrastructure, principles of open channel flow, and introduction to surface and ground water hydrology.

(3) CE 463—**Engineering Administration**—Engineering economy; annual cost, present worth, rate of return, and benefit-cost ratio in engineering decision making; basic contract law.

(2) EE 304—**Introduction to Electrical Circuits**—Prereq Math 315 or c//. Basic DC and AC circuits. Credit not given for EE 304 and EE 261/262.

(3) EE 311—**Electronics**—Prereq EE 214, EE 261. Fundamental device characteristics including diodes, MOSFETs and bipolar transistors; small- and large-signal characteristics and design of linear circuits.