



TeachEngineering

STEM Curriculum for K-12

DESIGN THINKING SKILLS

TeachEngineering.org

Engineers make a world of difference!



FORMULATING PROBLEMS



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Engineers take time to observe, infer and apply their breadth and depth of knowledge to thoughtfully frame a problem within the limits of available time, money, and resources.

SEEKING SOLUTIONS



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Engineers incorporate their personal experiences and intellect with empathy and understanding for all stakeholders to develop human-centered products or services.



THRIVING IN UNCERTAINTY



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The unknowns and limitations of a problem, especially wicked problems, offer engineers opportunities to be creative in developing innovative and practical solutions.

COLLABORATING CONSTANTLY



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Engineering team members bring their own perspective and collective expertise together to scope problems and negotiate desirable, feasible and viable solutions to problems.



PROTOTYPING IDEAS



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After generating ideas and gathering information about a problem, the rapid and rough creation of models and sketches (prototypes) inspire engineers to visualize options and inform possible solutions.

ITERATING OPTIONS



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Engineers test many versions of their prototypes as they develop, implement, and evaluate possible solutions - which over time improves their understanding of the problem.



REFLECTING FREQUENTLY



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Assessing and talking through iteration cycle outcomes allows engineers to simultaneously and repeatedly define and refine both their understanding of the problem and ideas for solutions.

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