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Teacher's Guide: Planning Your Future Career in Advanced Technology

Recommended Grade Level: 8-12
Suggested Time: About 1.5–2 hours completed in the classroom or at home, plus additional time to complete the final assignment (note: the final assignment, which will require meeting time with a teacher or advisor, may span an entire semester or more)

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Goals

During this lesson, students will accomplish the following:

• Explore the range of industries in advanced technology

• Learn about the knowledge and skills advanced technology workers need to develop and possess for successful careers

• Develop a personal mission statement describing which career field they see themselves pursuing in the future

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Overview

Planning Your Future Career in Advanced Technology is a student-directed learning experience. However, while students are expected to work through the lesson on their own, teachers should be available to keep the lesson on track, answer questions, and ensure that all learning goals are met.

The following is a summary of the lesson screens:

Screen 1:   Students learn that they will explore whether their interests might lead to a career in advanced technology.

Screen 2:   Students read that they will explore a range of industries in advanced technology, meet some working professionals, and discover the education and skills needed for a rewarding career.

Screen 3:   Students read about the range of educational and work experience held by today's advanced technology professionals. They then watch a video that details the ambitions and experiences of community college students in a wind energy technology program.

Screen 4:   Students watch a video that profiles a field service engineer who is relatively new to the work force. They then write down the varied skills this worker displays that illustrate his responsibilities.

Screen 5:   Students read about some of the roles and responsibilities held by managers and supervisors. They then watch a video in which one supervisor explains her work and how her education helped her land her current position.

Screen 6:   Students read about the education required to qualify for various positions in the work force, and how credits earned in two-year degree programs can be applied toward a four-year degree.

Screen 7:   Students learn how important community colleges are in supplying technicians to the advanced technology work force. They then watch a video in which representatives from one manufacturer explain the qualities and educational experience they look for in their technical employees and recruits.

Screen 8:   Students learn about the mix of academic and practical instruction typical of advanced technology education. They then watch a video featuring an engineering graphics student, who explains how the community college she attends meets her career goals and her budget and scheduling needs.

Screen 9:   Students learn why it's important for people interested in advanced technology careers to have a well-rounded education. They watch a video that reinforces the idea that employers want workers at all levels to have both technical and communication skills.

Screen 10:   Students read about the value of getting practical work experience through internships and co-op programs before they commit to a career field. They then watch three videos that explore the types of opportunities that may be available to them, even while they're still in high school.

Screen 11:   Students match their interests to a possible career field. They select from among seven career-focused interactive activities to learn about an advanced technology field and various career paths within it. As they explore the field further, they complete a worksheet that will help them begin to develop their own personal education and career plan.

Final
Assignment: Students develop a personal mission statement, then work with a teacher or advisor to refine academic and career goals. They may also identify a work experience or job shadow opportunity.

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Before the Lesson

❑ Go through each screen of the lesson, including all of the videos and interactive activities, so that you can familiarize yourself with what students will be doing. As you go through each screen, jot down your own expectations for students' responses.

❑ Arrange computers with Internet access so students can work individually. It may be necessary to have students complete this lesson at home or in a computer lab outside of class.

❑ Make sure the teacher or advisor with whom the student will collaborate on the final assignment is prepared to provide the following:

     o External links to self-assessment activities that may help students with their personal mission statements

     o Potential job opportunities

     o Other job resources (ATE centers, industry collaborations, state/regional resources)

❑ Before students begin, suggest a timeline for completing the lesson, mention the types of media they will encounter, and let them know how you expect them to submit their work. You may want to provide an outline of this information on a chart, chalkboard, or whiteboard, or as a handout.

Lesson Assessments

The following are descriptions of the lesson features that will be part of the packet of materials that students will submit. Students will use the packet for reference when writing their final assignment. It also allows you to monitor students' work as they're progressing through the lesson.

- **Notes** – Students take notes on screens 3, 4, 5, 7, 8, 9, and 10. If time allows, review their notes before they begin their writing assignment.

- **Matchmaking: Finding a Career That Fits** – Students prepare responses to three writing prompts intended to help them find a career that fits their skills and interests.

- **Final Assignment** – Students develop a personal mission statement and work with a teacher or advisor to plan their education and career goals.

Lesson Aids and Extensions

Use the following suggestions to help students if they are stuck on a particular screen, to help them as they complete their final assignment, and as follow-up activities after completing their final assignment.

- **Watching Videos** – Encourage students to watch the videos more than once. If you are completing the lesson as a classroom activity, after initially viewing a video, provide students with a specific content focus to frame their next viewing(s) of the video. This will help them draw connections between the main topic and the information that the video has to offer.

- **Personal Mission Statement** – To provide help with a personal mission statement, you may suggest that students check out the following resource, prepared by the U.S. Department of Labor, Employment, and Training Administration: http://www.careerinfo-net.org/explore/View.aspx?pageID=1.

- **Final Assignment** – To identify job shadowing or work experience opportunities for students, you or an advisor might want to check out the following Web resource, sponsored by the National Science Foundation: http://impress-creative.com/ate-centers/. The site offers links to the 39 centers of the NSF's Advanced Technological Education program. These centers lead dynamic, productive partnerships among industry, community colleges, and other education sectors across all regions of the United States.

- **Extension** – After they have completed the final assignment, have students follow up with you or an advisor on additional steps they might take in their education and career planning. These may include determining the cost of advanced education, investigating how they might qualify for tuition reduction (e.g., as through military service), and learning whether credits earned at a local community college or technical school will be recognized by the four-year colleges or universities to which they would like to apply. (Note: An articulation agreement is an agreement between two-year and four-year institutions that spells out which courses completed at the community college will transfer to the four-year college or university.) They may also wish to look up job outlook information, salary data, and other details for their job or career field(s) of choice, using the Occupational Outlook Handbook: http://www.bls.gov/search/ooh.htm.