



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# Mentors and Trainees Subject Aid

## Author(s)

Kelly Laas

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## Description

A short guide to some key resources and readings on the topic of mentoring.

## Body

Mentoring relationships are personal and reciprocal relationships where a more seasoned professional acts as a guide, role model, teacher, and sponsor of a less experienced student or junior professional. A mentor provides the mentee with knowledge, advice, council, challenge and support in the mentee's pursuit of becoming a full member of a particular profession. (Johnson, 2016).

In the realm of science and engineering, a good mentor seeks to help a student optimize an educational experience, to assist the student's socialization into a disciplinary culture, help the student build their professional network and (in some cases) find suitable employment. These obligations can extend well beyond formal schooling and continue into or through the student's career. A good trainee needs to understand the professional pressures and time constraints faced by their mentors, keep up communication, and seek out multiple mentors.

Ethics in the mentoring relationships is especially important because of the power differential that exists between mentors and trainees, and the important role

mentors – both official and unofficial – can have in a trainee’s education and career.

Mentoring is also central to promoting responsible conduct in all areas of research since mentors function as role models and are often the primary means by which professional standards are informally communicated. A good mentor will demonstrate both professional and social responsibility in the context of research.

From:

Johnson, W. Brad. 2016. *On Being a Mentor: A guide for Higher Education Faculty*. 2<sup>nd</sup> ed. New York: Routledge.

National Academy of Sciences (U.S.), National Academy of Engineering., & Institute of Medicine (U.S.). 1997. [Adviser, Teacher, Role model, Friend on Being a Mentor to Students in Science and Engineering](http://www.nap.edu/catalog/5789/adviser-teacher-role-model-friend-on-being-a-mentor-to-students-in-science-and-engineering). Washington, D.C.: National Academies Press. <http://www.nap.edu/catalog/5789/adviser-teacher-role-model-friend-on-being-a-mentor-to>

## Subject Overviews

**“Advising and Mentoring,” in *On Being a Scientist : A Guide to Responsible Conduct in Research* National Academies . Committee on Science Engineering and Public Policy. 2009. 3rd ed. 4-7. Washington, D.C.: National Academies Press. <http://www.nap.edu/read/12192/chapter/3>**

This third edition of this publication is designed to supplement the informal lessons in ethics provided by research supervisors and mentors. The book describes the ethical foundations of scientific practices and some of the personal and professional issues that researchers encounter in their work. It applies to all forms of research -- whether in academic, industrial, or governmental settings -- and to all scientific disciplines.

**Johnson, W. Brad. 2017. “Ethical Considerations for Mentors: Toward a Mentoring Code of Ethics.” *SAGE Handbook of Mentoring*. Thousand Oaks, CA: SAGE Publications Ltd.**

This article explores the complexity of mentoring relationships, outlines some top ethical challenges that mentors often face, and suggests a mentoring code of ethics that provides a common set of principles upon which mentors can

build them mentoring work.

**Steneck, Nicholas. “Mentor and Trainee Responsibilities,” in ORI Introduction to RCR, Nicholas Steneck, 117-128. Office of Research Integrity, 2007. <http://ori.hhs.gov/Chapter-7-Mentor-and-Trainee-Responsibilities-Introduction>**

This booklet introduces the reader to the nine RCR core instructional areas in four sections that follow research from inception to planning, conducting, reporting, and reviewing research. The publication features case studies, text-box inserts, discussion questions, and electronic and printed resources.

**Weil, Vivian. (2001) Mentoring: Some Ethical Considerations. *Science and Engineering Ethics* 7:471-482.**

To counter confusion about the term ‘mentor’ and address concerns about the scarcity of mentoring, the author argues for an “honorific” definition, according to which a mentor is virtuous like a saint or hero. Given the unbounded commitment of mentors, mentoring relationships must be voluntary. In contrast, the role of advisor can be specified, mandated, and monitored. The author argues that departments and research groups have a moral responsibility to devise a system of roles and structures to meet graduate students’ and postdoctoral fellows’ needs for information and advice.

## **Policy and Guidance**

**National Academy of Sciences (U.S.), National Academy of Engineering., & Institute of Medicine (U.S.). 1997. [Adviser, Teacher, Role model, Friend on Being a Mentor to Students in Science and Engineering](http://www.nap.edu/catalog/5789/adviser-teacher-role-model-friend-on-being-a-mentor-to). Washington, D.C.: National Academies Press. <http://www.nap.edu/catalog/5789/adviser-teacher-role-model-friend-on-being-a-mentor-to>**

This guide offers helpful advice on how teachers, administrators, and career advisers in science and engineering can become better mentors to their students. It starts with the premise that a successful mentor guides students in a variety of ways: by helping them get the most from their educational experience, by introducing them to and making them comfortable with a

specific disciplinary culture, and by offering assistance with the search for suitable employment. Other topics covered in the guide include career planning, time management, writing development, and responsible scientific conduct. Also included is a valuable list of bibliographical and Internet resources on mentoring and related topics.

**Rackham Graduate School, University of Michigan, 2015. *How to Get the Mentoring You Want: A Guide for Graduate Students.***

<http://www.rackham.umich.edu/downloads/publications/mentoring.pdf>

An excellent guide for students looking to find a mentor in graduate school.

**Rackham Graduate School, University of Michigan, 2015. *How to Mentor Graduate Students: A Guide for Faculty.***

<http://www.rackham.umich.edu/downloads/publications/Fmentoring.pdf>

An excellent guide for faculty interested in how to be an effective mentor for graduate students.

## **Bibliography**

**“Mentors and Trainees Bibliography.” In Online Ethics Center for Engineering and Science. Last modified June 6, 2016.**

<https://onlineethics.org/cases/mentors-and-trainees-bibliography>

Includes websites, books, reports and articles looking at some of the ethical questions that can arise between advisors and trainees, how to find a mentor and the impact mentors have on students’ academic and career paths.

### **Rights**

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### **Resource Type**

Bibliography

### **Parent Collection**

OEC Subject Aids

## **Topics**

Mentors and Trainees

## **Discipline(s)**

Life and Environmental Sciences

Engineering

Social and Behavioral Sciences

Computer, Math, and Physical Sciences

Authoring Institution

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