

RAYMOND PROUTY

A world-renowned rotary-wing aerodynamicist, who has been working with helicopters for nearly 60 years. He has been involved in the development of several rotorcraft systems. Raymond Prouty has a simple and direct style and a talent for making the challenging and complex topic of helicopter aerodynamics interesting and easy to understand. He is the author of several books and regularly writes articles for various aviation industry magazines.

FOUNDATIONS OF HELICOPTER AERODYNAMICS

A four day course which gives you an understanding of the various aerodynamic and load considerations that affect helicopters. You will gain the skills to analyse the performance of an existing helicopter or participate in its design or modification.

FOR FURTHER INFORMATION
Training Coordinator
QinetiQ Technology Training
Level 4, 210 Kings Way
South Melbourne
Victoria Australia 3205
Phone: +61 3 9694 1084
Fax: +61 3 9694 1020
Email: qttraining@QinetiQ.com.au
www.qttraining.com.au
ABN: 56 127 766 689

FOUNDATIONS OF HELICOPTER AERODYNAMICS

- Course times are 8 am to 4 pm.
- Morning tea, a light lunch and afternoon tea will be provided each day.
- The text, *Helicopter Aerodynamics Vol I and II*, and course notes will be provided on the first day.
- The course has a maximum of 30 students.
- The course fee is \$3,200 per person plus 10% GST (\$3,520 GST inclusive).
- Participants will receive a course photo and certificate on completion of the course.
- Registration forms along with payments, purchase orders, and/or invoice requests must be received at QTT by **17 February 2012**.

Registration will be confirmed either on attainment of class capacity or, alternatively, one month before course start date. Further course information will be sent directly to the participants after the registration cut off date. QTT advises that attendees wait to book travel and accommodation until receipt of course confirmation letter.

Refer to the QTT website (www.qttraining.com.au) for full terms and conditions, including cancellation and privacy policy.

QinetiQ

QinetiQ Technology Training

Presents

FOUNDATIONS OF HELICOPTER AERODYNAMICS

instructed by

Raymond Prouty

Dates:

19 - 22 March 2012

Venue:

Level 4, 210 Kings Way

South Melbourne

Victoria

Recognised for **Continuing Professional Development** in accordance with Engineers Australia guidelines.

COURSE OVERVIEW

This four day course covers the practical aspects and analysis of helicopter performance, stability and control. The considerations that designers face during the preliminary design phase, to ensure good performance and good flying qualities, are also discussed. There is a special emphasis on relating helicopter aerodynamics to aeroplane aerodynamics.

Who should attend?

This course is considered vital to any professional engineer or engineering manager who works with helicopters. It is also suitable for fixed-wing engineers or the engineering faculty who wish to obtain a greater understanding of helicopter flight.

Learning Outcomes

- Understand the various aerodynamic and load considerations that affect helicopters
- Analyse helicopter performance
- Participate in the design or modification of helicopters
- Communicate more effectively with operators

Text

Participants will receive a copy of:

Helicopter Aerodynamics Vol I, R. Prouty: a compilation of articles published in Rotor and Wing magazine from 1979 - 1992; and

Helicopter Aerodynamics Vol II, R. Prouty: further articles published by Ray Prouty from 1992 - 2004.

COURSE OUTLINE

Day One

- The hovering helicopter
- Factors affecting hover
- Vertical flight
- Momentum theory of forward flight
- Blade element theory of forward flight

Day Two

- Forward flight computer program
- Estimating performance
- Calculating performance characteristics
- Maneuvering
- Rotor flapping characteristics flight

Day Three

- Trim and static stability
- Dynamic stability
- Aerodynamic considerations for the main rotor
- Airfoils for rotor blades
- Antitorque systems
- Empennages and wings

Day Four

- Other configurations
- The preliminary design process
- Noise
- Vibrations
- Helicopter accidents

Registration Form

FOUNDATIONS OF HELICOPTER AERODYNAMICS

19 - 22 March 2012

\$3,200 + 10% GST (\$3,520 GST Inc)

First Name

Surname

Company/Military Group/Agency/Organisation

Job Title

Postal Address

Phone

Mobile

Fax

Email

Privacy: Your personal information may be used as follows:

Tick if you do not want your name and email address to be included in the contact list which is provided to your fellow course participants.

Tick if you do not want to be added to our confidential emailing list which will advise you of future QTT courses.

Form must be returned to QTT by 17 Feb 2012

METHOD OF PAYMENT

Cheque

Purchase Order No. _____

Credit Card: Authorisation form available at www.qttraining.com.au or email qttraining@qinetiq.com.au. Please note a 1% surcharge applies to all card payments.

Please Invoice: For invoice please provide name and full address .

FOR FURTHER INFORMATION
Training Coordinator
QinetiQ Technology Training
Level 4, 210 Kings Way
South Melbourne
Victoria Australia 3205
Phone: +61 3 9694 1084
Fax: +61 3 9694 1020
Email:
qttraining@QinetiQ.com.au
www.qttraining.com.au

CANCELLATION

Should you be unable to attend, a suitable substitute is always welcome. Alternately, a refund less a \$150 administration fee will be made for cancellations received in writing prior to 17 Feb 2012. Refunds will not be given after 17 Feb 2012, however for exceptional circumstances some credit may be given towards another QTT course.