The world is changing. And it is not just machines that are having ever higher expectations placed on them: you too, as a user, have to continually develop yourself in order to progress in the modern world. This is why TRUMPF Laser, as the international market leader, holds regular trainings. In our modern Training Center, we offer you a wide range of training opportunities directed at participants with the most diverse degrees of prior knowledge and areas of application. These trainings will make working with TRUMPF lasers even easier and more efficient, something both you as an employee and your company will benefit from. Find out about our course program now.

Continued learning - making progress

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At TRUMPF, learning means experiencing

Demanding subjects must be conveyed appropriately. For this reason, we at TRUMPF Laser set up our trainings in such a way that there is room for both practical experience and fun. Whether it is training at the computer or directly on a laser device: modern methods and training rooms equipped to a high standard ensure a varied learning environment which turns a day at TRUMPF Laser into a real experience.

But you won’t just find out more about our products during a training day: Shared breaks provide the ideal opportunity to come into contact with other participants or the trainers.

Discover interesting facts about our Training Center and our range of courses.

10 training rooms are available

Each year, more than 400 courses take place

More than 100 course types

2000 participants have taken part in our trainings in the last year

International participants from 32 countries

Experience TRUMPF
Always on the right course

Many companies are already working for many years with laser devices manufactured by TRUMPF Laser. However, changing markets or technical developments are always producing new areas of use for our products. The result is a continually growing training requirement, individually tailored to suit different types of users, their previous experience and requirements.

We see it as one of our most important tasks to support you personally with a wide range of training opportunities – so that you can continue to work safely and efficiently in the future too.

Discover what TRUMPF Laser is offering to support your individual requirements.

Competence levels

Even the old Egyptians knew that a good foundation is the base for maximum performance. Therefore, with our basic training we create a foundation for advanced or expert training:

- **Expert knowledge**
  TRUMPF offers additional in-depth courses for experienced users. During these trainings, you not only refresh what you have already learned, but you also acquire specific expert knowledge. These courses are therefore an ideal opportunity for you to further develop yourself as an employee and to be fully up to date with the latest state of the art as an experienced professional.

- **Additional knowledge**
  After the introductory courses at TRUMPF Laser and commissioning at the company’s site, you can deepen your knowledge with additional courses. Here, a particular focus is placed on image processing or application. In this way, you obtain further help and practical tips which will enable you to operate your machine even more easily and efficiently.

- **Basic knowledge**
  In case of a newly purchased laser device we show you in extensive courses how you can produce efficiently with your laser device. And in the event that you, as user, change over to a similar product from the TRUMPF Laser product family, we ensure that you have the training you need to guarantee you a fast and safe changeover.
Beam sources

With your TRUMPF laser, you have acquired an exceptional high-tech system. Whether you are welding, cutting, marking or using the laser tool for other tasks: the specific machining processes always require that all parameters involved in the process are adhered to.

By training at our Training Center in Schramberg, you will get to know your laser device and its functions in detail. The training provides you with safety during your day-to-day work and ensures that you are able to fully benefit from your laser’s potential.

Technologies
TruDisk | TruMicro | TruPulse | TruDisk Pulse | TruDiode | TruFiber | Optics | Process sensor system

Laser devices and their use

We are using TRUMPF examples in our trainings.
### TruDisk courses

**TruDisk Operation**

- **Objectives**: You will become confident in operating the laser device correctly, performing maintenance work on the laser, replacing assemblies and control components, rectifying malfunctions and performing fault diagnosis.

- **Learning content**:
  - Basics of laser technology, laser safety.
  - Structure and function of the TruDisk solid-state laser, generations 4C, 6C and FD27.
  - Structure of the laser control.
  - Operation of the laser using TruControl 1000.

- **Prerequisites**: Operator or maintenance course for a laser device.

**TruDisk Maintenance**

- **Objectives**: You will become confident in operating the laser device correctly, performing maintenance work on the laser, replacing assemblies and control components, rectifying malfunctions and performing fault diagnosis.

- **Learning content**:
  - Structure and function of the TruDisk solid-state lasers of the respective generations.
  - Structure of the laser control.
  - Operation of the laser using TruControl 1000.
  - Setting up the PFO Editor including teaching in the optics.

- **Prerequisites**: Operator or maintenance course for a laser device.

**PFO Operation**

- **Objectives**: You will know how to operate the programmable focusing optics (PFO) and become familiar with their structure. You will also be able to create, integrate and call up PFO programs.

- **Learning content**:
  - Structure and function of the programmable focusing optics.
  - Interfaces between the optics and the laser device.
  - Operation and programming in TruControl 1000.

- **Prerequisites**: Operator or maintenance course for a laser device.

NEW Subsequent application training possible (see p. 22 -23)

### Operator course TruDisk 1 - 16 kW

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### Maintenance course TruDisk 1 - 2 kW (6C)

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### Maintenance course TruDisk 1 - 6 kW (FD27)

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### Maintenance course TruDisk 3 - 12 kW (6C)

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**Do you use a TruDisk with a compressor chiller?**

With an additional day, we will train operation, maintenance and repair. Contact us!

NEW Subsequent application training possible (see p. 22 -23)

*Our follow-on courses round off your competence portfolio perfectly.*

**We provide you with the opportunity to plan a follow-on course for your PFO directly in connection with your laser course. Please contact us!**

**NEW** Subsequent application training possible (see p. 22 -23)
Our courses are subdivided into three knowledge levels which build on one another.

### Basic knowledge
- Operator or maintenance course TruMicro 2000
- Operator & Maintenance course TruMicro 5000 (FU02/FU04)

### Additional knowledge
- Operator & Maintenance course TruMicro 2000 (FU06)
- Operator & Maintenance course TruMicro 7050/7060/7240
- Operator & Maintenance course TruMicro 7370/7380/8320/8340

### Expert knowledge
- Operator & Maintenance course TruMicro 7060/7070 (FK06)

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**Operator & Maintenance course TruMicro 2000**

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**Operator & Maintenance course TruMicro 5000 (FU02/FU04)**

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**Operator & Maintenance course TruMicro 5000 (FU06)**

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**Operator & Maintenance course TruMicro 7050/7060/7240**

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**Operator & Maintenance course TruMicro 7370/7380/8320/8340**

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**Operator & Maintenance course TruMicro 7060/7070 (FK06)**

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*Our follow-on courses round off your competence portfolio perfectly.*

We provide you with the opportunity to plan a follow-on course for your PFO directly in connection with your laser course. Please contact us!
TruPulse courses

Objectives
You will be able to deal with the laser, make changes to laser programs and create new programs.

Learning content
- Basics of laser technology, laser safety
- Structure and function of TruPulse
- Structure of the laser control
- Operation of the laser using TruControl 1000
- Mechanical maintenance

Subsequent application training possible (see p. 22 -23)

Operator course TruPulse 21 - 556

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Maintenance course TruPulse 21 - 556

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* Our follow-on courses round off your competence portfolio perfectly.
We provide you with the opportunity to plan a follow-on course for your PFO directly in connection with your laser course. Please contact us!
Our follow-on courses round off your competence portfolio perfectly.

* We provide you with the opportunity to plan a follow-on course for your PFO directly in connection with your laser course.

Please contact us!

Our courses are subdivided into three knowledge levels which build on one another.

### TruDisk Green courses

#### Objectives

**TruDisk Green Operation**

- You will be able to operate the laser device correctly, make changes to laser programs and create new programs.

**Learning content**

- Basics of laser technology, laser safety
- Structure and function of TruDisk Green
- Operation of the laser using TruControl 1000
- Mechanical maintenance

**NEW** Subsequent application training possible (see p. 22 -23)

#### Objectives

**TruDisk Green Maintenance**

- You will become confident in operating the laser device correctly, performing maintenance work on the laser, replacing assemblies and control components, rectifying malfunctions and performing fault diagnosis.

**Learning content**

- Basics of laser technology, laser safety
- Structure and function of TruDisk Green
- Operation of the laser using TruControl 1000
- Electrical and mechanical maintenance
- Diagnostics and practical troubleshooting
- Electrical repair work

#### Objectives

**Do you have a PFO?**

**Operator course TruDisk Green**

<table>
<thead>
<tr>
<th>COURSE DATES</th>
<th>DURATION</th>
<th>LANGUAGE</th>
<th>WEEK</th>
<th>FROM</th>
<th>TO</th>
</tr>
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<tbody>
<tr>
<td><strong>German</strong></td>
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#### Maintenance course TruDisk Green

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<thead>
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<th>LANGUAGE</th>
<th>WEEK</th>
<th>FROM</th>
<th>TO</th>
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</table>

* Our follow-on courses round off your competence portfolio perfectly.

We provide you with the opportunity to plan a follow-on course for your PFO directly in connection with your laser course. Please contact us!

Basic knowledge

Additional knowledge

Expert knowledge

Our courses are subdivided into three knowledge levels which build on one another.
TruLaser Station 5005 courses

**Objective**
You will be able to operate the machine, familiar with its functions, and be able to create and edit programs.

**Learning content**
- Machine set up and assembly and overview of machine functions
- Interfaces and safety devices for the laser system
- Handling the user interface and the operating elements
- Programming the system with axis functions, rotation, scaling, and reflection, and integration of laser programs
- Maintenance of the machine

**Recommendation**
Operator or maintenance course for a laser device

**Subsequent application training possible** (see p. 22-23)

Dates on demand: Contact us!

Operator course TruLaser Station 5005

<table>
<thead>
<tr>
<th>COURSE DATES</th>
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<th>LANGUAGE</th>
<th>WEEK</th>
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</table>

This course takes place on a machine with processing optics (BEO).

For further options please check our course offer on p. 19-21.

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Process sensor system courses

**Quality Data Store (QDS 2) Programming**

**Objective**
You will know how to install the software product and adjust and configure QDS-2 at its' arrangement. You will know how to make the necessary adjustments in the TruControl and the sensoric UI.

**Learning content**
- Structure and function of the I-PFO system
- Review of basic knowledge PFO and TruTools PFO
- Interfaces between the laser device and the I-PFO system
- Operation and programming of the I-PFO editor
- Setting up, teaching function and communication with the robot

**Prerequisites**
Operator or maintenance course for a laser device

**VisionLine Detect - PFO Operation**

**Objective**
You will know how to operate it together with the robot and teach it on components.

**Learning content**
- Procedure at setting
- Use of the installation

**Prerequisites**
Windows knowledge

**TruTops PFO Programming**

**Objective**
You will gain the knowledge to detect contours using VisionLine Detect programming and to implement a complete application using self-created PFO programs.

**Learning content**
- Complete learning content of the PFO operator course
- Basics of the image processing software VisionLine Detect with PFO
- Calibration of VisionLine Detect with PFO
- Creating programs for VisionLine Detect PFO

**Prerequisites**
Operator or maintenance course for a laser device

**VisionLine Detect - PFO Operation**

**Objective**
You will become familiar with the structure of the I-PFO system, be able to operate it together with the robot and teach it on components.

**Learning content**
- Structure and function of the I-PFO
- Review of basic knowledge PFO and TruTools PFO
- Interfaces between the laser device and the I-PFO system
- Operation and programming of the I-PFO editor
- Setting up, teaching function and communication with the robot

**Prerequisites**
Operator or maintenance course for a laser device

**TruTops PFO Programming**

**Objective**
You will become adept at creating simple 2D CAD drawings, converting and integrating them in a laser program and implementing a complete application.

**Learning content**
- Introduction to the TruTops PFO software
- Creation of 2D CAD programs
- Conversion in TruTools PFO, integration and execution in TruControl 100

**Prerequisites**
Operator or maintenance course for a laser device

**I-PFO Operation**

**Objective**
You will know how to operate the programmable focusing optics (PFO) and become familiar with their structure. You will also be able to create, integrate and call up PFO programs.

**Learning content**
- Structure and function of the programmable focusing optics
- Interfaces between the optics and the laser device
- Operation and programming in TruControl 100
- Setting up the PFO Editor including teaching in the optics
- Introduction to TruTools PFO programming system

**Prerequisites**
Operator or maintenance course for a laser device

---

Dates on demand: Contact us!
Objectives
You will be able to parametrize a welding depth measurement with the sensor operating interface during laser processing.

Learning content
- Structure and function of the sensor arrangement
- Adjustment of the sensor at the processing optics
- Use of operating interface

Prerequisites
Operator or maintenance course for a laser device

Objectives
You will acquire the skills to operate TruTops I-PFO and the know-how to create, adapt and optimize programs.

Learning content
- Structure and function of the I-PFO
- Creation of robot programs (working and teaching programs)
- Theoretical and practical declaration of variables
- Practical application and improvement of I-PFO programs

Prerequisites
Operator or maintenance course I-PFO

Objectives
You will be able to create processes by means of different editors and to optimize them.

Learning content
- Structure and function of the PFO 20-2 PO with temperature control
- Operating and programming of the different editors
- Use of the software for temperature control

Prerequisites
Operator or maintenance course PFO 20-2 PO

objectives
You will understand how to operate the SeamLine Remote system and learn how to create, adapt and optimize programs.

Learning content
- Structure and function of the SeamLine Remote
- Operating and creation of programs related to all system components
- Theoretical and practical declaration of variables
- Teaching the complete system
- Adaption of program parameters and program improvement

Prerequisites
Operator or maintenance course for a laser device and knowledge in operating a PFO

VisionLine Detect programming course

<table>
<thead>
<tr>
<th>COURSE DATES</th>
<th>DURATION</th>
<th>LANGUAGE</th>
<th>WEEK</th>
<th>FROM</th>
<th>TO</th>
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TruTops PFO programming course

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<th>WEEK</th>
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I-PFO operator course

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I-PFO programming course

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SeamLine Remote operator course

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<td>On request</td>
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Application training

No matter if you separate, join or process most different metals – with TRUMPF lasers everything is possible. In the practical application training, you can work practically with your own parts.

Due to the individually configured training contents and small training groups (consisting of your employees) we offer a training that is perfectly adapted to your needs.

Thus, this course enables a targeted extension of your application know-how.

Technologies
TruDisk | TruPulse | TruDisk Green | TruFiber

Application courses

- **Objectives**
  - You will gain an overview of laser welding and cutting by using the solid-state laser, and will be able to assess different welding results and optimize parameters.

- **Learning content**
  - Basic knowledge of laser welding and cutting
  - Material properties of selected metals
  - Influence of the welding parameters on the welding result
  - Overview of BrightLine Weld

- **Prerequisites**
  - We recommend visiting a laser training (i.e. TruDisk or TruPulse laser) in advance.

Your way to the application professional:

1. You will have a personal consultation in which we discuss your requirements and check the feasibility.
   - **DURATION:** 0.5 DAYS

2. In advance you will learn the basics via e-learning – time and place independent.
   - **DURATION:** On request

3. On the first day you will learn the basics of laser welding and cutting.
   - **DURATION:** 1 DAY

4. During the on-site learning you will learn the basics of laser welding or cutting and you will work directly at the laser device.
   - **DURATION:** 2 DAYS

5. Optionally
   - For special applications (i.e. BrightLine Weld, Crossjet...) – we will go into it.
   - **DURATION:** 1 DAY

Technology course application

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<tr>
<th>COURSE</th>
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Courses on request

**TruDiode Operation**

**Objectives**
You will be able to operate the laser device correctly, make changes to laser programs and create new programs.

**Learning content**
- Basics of laser technology, laser safety
- Structure and function of laser device and supply unit
- Structure of the laser control
- Operation of the laser using TruControl 1000

**OPTIONALLY**
Subsequent PFO operation course is possible.

**TruDiode Maintenance**

**Objectives**
You will become confident in operating the laser device correctly, performing maintenance work on the laser, replacing assemblies and control components, rectifying malfunctions and performing fault diagnosis.

**Learning content**
- Basics of laser technology, laser safety
- Structure and function of the laser device and the supply unit
- Structure of the laser control
- Operation of the laser using TruControl 1000
- Electrical and mechanical maintenance
- Diagnostics and practical troubleshooting
- Electrical repair work

**NEW**
Subsequent application training possible (see p. 22-23)

**TruFiber Operation & Maintenance**

**Objectives**
You will become confident in operating the laser device correctly, make changes to laser programs and create new programs.

**Learning content**
- Basics of laser technology, laser safety
- Structure and function of the laser device and the supply unit
- Structure of the laser control
- Operation of the laser using TruControl 1000
- Maintenance work (if applicable, electrical and mechanical)
- Diagnostics and practical troubleshooting
- Electrical repair work

In addition to our catalog courses, we offer individual special courses, just for you!

The course content will be created in close collaboration with you.

Special courses can be planned depending on the availability of rooms and trainers.

Please contact us as soon as possible if you require any further information on these.

We offer dates for these courses on request. Please contact us. We will need to know your desired date and the number of participants.

We will be happy to put together an individual plan to meet your requirements.
Your path to knowledge

This training catalog provides you with a first impression of the variety and content of TRUMPF courses. We hope that classification according to technologies and competence levels has enabled you to find a course which meets your personal requirements, learning objectives and prior experience. We look forward to the opportunity to welcome you and train you soon at the TRUMPF Laser Training Center.

Course registration

Please contact us by telephone or by email. We will develop a non-binding offer for you.

Since the number of places available for each training course is limited, we recommend that you gather the information you require at your earliest convenience and analyze the requirement at your company.

Further information

You can find further information regarding the varied course program in the training portal at www.trumpf.com.

TRUMPF has the right offer to meet all your requirements and suit your personal situation.

Contact the TRUMPF Laser Training Center

Should you have any questions about the trainings we offer, would like to request an individual course or have any other suggestions for us – the TRUMPF Laser Training Center team will be happy to help.

Please call us directly or send us an email.

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Email: training.tls@trumpf.com