



# Orst Fact Finding Observations – Certification Skills Training

## ... sample template

CATEGORY	General		Technical				Educational		
<b>JOB ROLE</b>	Certified Knowledge Base User (CKBU)	Certified Orst Kit Developer (COKD)	Certified Orst Power Technician (COPT)	Certified Orst Engineer (COE)	Certified Orst Power Engineer (COPE)	Certified Orst Power Architect (COPA)	Certified on Orst Power Concepts (COPC)	Certified Orst Trainer (COT)	University Degree in Orst Theory (OT)

<b>Point-of-Contact (POC)</b>	Online Training manager name	Online Training manager name	Online Training manager name	On-site Training manager name	On-site Training manager name	On-site Training manager name	Online Training manager name	On-site Training manager name	On-site Training manager name
<b>LEVEL</b>	Boern Business Developer #1	Boern Business Developer #2	Boern Development Engineer #1	Boern Development Engineer #2	Boern Development Engineer #3	Boern Engineer Architect #1	Boern Training Engineer #1	Boern Training Engineer #2	Boern Training Engineer #3
<b>Knowledge Holders</b>	Course Developer name	Course Developer name	Course Developer name	Course Developer name	Course Developer name	Course Developer name	Course Developer name	Course Developer name	Course Developer name
<b>General</b>	The CKBU role is the base level training for general users.	The COKD role follows CKBU training. COKD training requires purchase of kit.	The COPT role can follow COKD or be taken independently. Base level technical certification focused upon installation and maintenance.	The COE role includes COPT basics plus engineering basics and analysis of test configurations.	The COPE role can follow either COPT or COE. Engineering, analysis, configurations, power train applications	With some exceptions the COPA role is learned after COPE. Also includes building power plant application and building code knowledge.	The COPC role is learned after COKD. Community College level technical courses and hands-on training.	The COT role is an online and on-site training program. Includes mastery of training techniques up to COE level.	OT role offered in collaboration with UCD, MIT or other university partners.
<b>Training Locations</b>	Online	Online	Online	Online	Online plus sites in Dubai, Eindhoven, Boston.	Online plus sites in Dubai, Eindhoven, Boston.	Online	Online plus sites in Dubai, Eindhoven, Boston.	Sites in Dubai and Boston.
<b>Training Length</b>	About 24 hours (3 days).	About 32 hours (4 days).	About 40 hours (1 wk).	About 75-80 hours (2 wks).	About 150-160 hours (4 wks) Requires on-site training.	About 150-160 hours (4 wks) Requires on-site training.	About 135-140 hours (3-4 wks)	1 elective course equivalent. Requires on-site training.	3 elective courses. Requires enrollment at Senior or Grad level.



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<b>Skills and Competencies Outcomes (upon completing training)</b>	<ul style="list-style-type: none"> <li>Possesses general product knowledge</li> <li>Assesses general applicability</li> </ul>	CKBU plus: <ul style="list-style-type: none"> <li>Approves testing methods</li> <li>Conducts testing</li> <li>Assesses specific applicability</li> <li>Recommend hiring criterias</li> </ul>	COKD plus: <ul style="list-style-type: none"> <li>Conducts installation of equipment</li> <li>Reads and understands schematics of Orst-related equipment</li> <li>Develops and schedules maintenance procedures</li> <li>Recommends upgrades</li> <li>Recommends hiring criteria</li> </ul>	COPT plus: <ul style="list-style-type: none"> <li>Supervises the installation of equipment</li> <li>Recommends, constructs and conducts field test equipment</li> <li>Determines appropriate match of energy requirement to equipment capability</li> <li>Creates spreadsheet and macro calculations</li> <li>Can recite classification system for magnets by material, grade, properties, coating, shape, axis of magnetization and production method</li> <li>Generates 3D CAD configuration drawings</li> </ul>	COE plus: <ul style="list-style-type: none"> <li>Designs power supply system for small devices</li> <li>Designs power plant for automotive power train applications</li> <li>Designs V2G (vehicle-to-grid) power system</li> <li>Develops high level hardware and software systems and procedures for testing</li> </ul>	COE plus: <ul style="list-style-type: none"> <li>Designs power supply system for structures under 35 kWh</li> <li>Designs emergency power backup systems</li> <li>Develops B2G (building-to-grid) power system.</li> <li>Develops high level hardware and software systems and procedures for testing</li> </ul>	COPT plus: <ul style="list-style-type: none"> <li>Instructs Orst basics in classroom setting</li> <li>Develops of curriculum for Orst theory and application</li> <li>Assesses work of students</li> <li>Establishes community/business partnerships for class projects and student internships</li> </ul>	COPC and COKD plus: <ul style="list-style-type: none"> <li>Conducts consultative selling</li> <li>Assesses customer applications</li> <li>Can recite compliance with functional standards.</li> <li>Knows UL approval process (or local equivalent)</li> </ul>	<ul style="list-style-type: none"> <li>Theorize quantum basis for Orst Effect</li> <li>Presents on the history of magnetic lag</li> <li>Develops theory based upon Maxwell's equations</li> <li>Researches and writes thesis or dissertation</li> </ul>



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<b>Audience Profile</b>	CKBUs can be characterized as hobbyists and corporate technologists interested in assessing the technology at a level above pedestrian.	COKDs can be characterized as entrepreneurs and technologists interested in assessing the technology for direct applications	COPTs can be characterized as technicians interested in the installation and maintenance of Orst devices, but not design or engineering.	COEs can be characterized as engineers with mandates to assess or develop specific applications.	COPEs can be characterized as senior level design engineers mandated to develop power supplies for consumer electronics or automotive applications.	COPAs can be characterized as senior level architectural engineers mandated to develop stationary power generation capabilities for buildings.	COPCs can be characterized as technical educators and trainers teaching the basic concepts at the general or COPT level.	COTs can be characterized as high level consultants training engineers and architects on Orst system designs and requirements.	OTs can be characterized as academics researching the physical basis for the Orst Effect and advancing the science.
<b>Job Duties</b>	CKBUs are responsible for general level advising on Orst capabilities. Major duties include: <ul style="list-style-type: none"> <li>• Knowledge of potential uses</li> <li>• Advising on IP obligations</li> <li>• Application assessments</li> </ul>	COKDs are responsible for business development assessment with hands-on testing. Major duties include CKBU plus: <ul style="list-style-type: none"> <li>• Knowledge of testing methods</li> <li>• Present product features and benefits</li> </ul>	COPTs are responsible for technical installations and maintenance. Major duties include COKD plus: <ul style="list-style-type: none"> <li>• Knowledge of local codes for equipment installation</li> <li>• Process maintenance requests</li> </ul>	COEs are responsible for developing and testing Orst applications. Major duties include: <ul style="list-style-type: none"> <li>• Development and construction of low cost field test equipment</li> <li>• Non-contact torque/angle/KE metrics</li> <li>• Non-contact metrics of friction/radial/axial rotational resonance</li> <li>• Non-contact metrics of 3D magnetic field shapes in motion</li> <li>• Non-contact metrics of Sv</li> </ul>	COPEs are responsible for developing Orst power applications from mobile electronics to automotive power trains. Major duties include COE plus: <ul style="list-style-type: none"> <li>• Power train engineering</li> <li>• Power supply engineering</li> </ul>	COPAs are responsible for developing and integrating Orst generator technology into building configurations. Major duties include COE plus: <ul style="list-style-type: none"> <li>• Primary power supply design/engineering</li> <li>• Secondary/backup power supply design/engineering</li> <li>• Grid integration</li> </ul>	COPCs are responsible for technical training on Orst power systems. Major duties include COKD plus: <ul style="list-style-type: none"> <li>• Instruction at technical college level</li> <li>• Assessment of student progress</li> </ul>	COTs are responsible for instruction on Orst technical implementations and theoretical comprehension. Major duties include COPC plus: <ul style="list-style-type: none"> <li>• Conduct training &amp; consultancy practice according to international standards in performance, product and service.</li> </ul>	OTs are responsible for furthering theoretical knowledge of Phase 3 understanding of Orst energy systems. Major duties include: <ul style="list-style-type: none"> <li>• Independent research on magnetism and quantum studies of electron spin energetics</li> </ul>



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<b>Course Goals</b>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Consultative skills</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Consultative skills</li> <li>• Understanding of code compliance</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units, power gains, sourcing of materials.</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Consultative skills</li> <li>• Understanding of standards &amp; compliance</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Consultative skills</li> <li>• Understanding of standards &amp; compliance</li> <li>• Mobile product applications</li> <li>• Electrical grids</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Consultative skills</li> <li>• Understanding of code compliance</li> <li>• Residential and commercial power generation</li> <li>• Electrical grids</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Training and course development</li> <li>• Curriculum development</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Consultative skills</li> <li>• Understanding of code compliance</li> <li>• Curriculum development</li> <li>• Professional consulting</li> <li>• Economic development</li> <li>• Corporate responsibility and ethics</li> <li>• Environmental and economic impacts</li> </ul>	<p>Curriculum materials currently lack explicitly stated course goals. Should be focused on the following kinds of training:</p> <ul style="list-style-type: none"> <li>• Understanding of material science, work/force/energy, testing methods &amp; analysis, force and electricity, building units</li> <li>• IP Knowledge</li> <li>• System knowledge &amp; skills</li> <li>• Magnetics</li> <li>• Quantum physics</li> <li>• Software tool development</li> </ul>
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<b>Training Prerequisites</b>	None	None	Prerequisite skills include: • Electrician Certification & registration for locality	Prerequisite skills include: • IEEE/SAE certification or equivalent in electrical or automotive engineering	Prerequisite skills include: • IEEE/SAE certification or equivalent in electrical or automotive engineering	Prerequisite skills include: • NCEES or equivalent in architectural engineering	Prerequisite skills include: • All SKDB courseware completed successfully	Prerequisite skills include COPC plus: • University degree in engineering	Prerequisite skills include COPC plus: • University degree in physics or engineering
<b>Curricula Structure or Architecture</b>	The CKBU Curricula is divided into twelve (12) modules totaling about 24 hours. Courses include: • Magnetic Material Science • Work, Force, Energy & Engineering • Q&A Self-review	The COKDs Curricula is divided into fifteen (15) modules totaling about 32 hours. Includes CKBU plus: • Testing Methods & Data Analysis • Magnetic Forces & Electricity	The COPTs Curricula is divided into twenty (20) modules totaling about 40 hours. Includes COKD plus: • Building Orst Units • Installation and maintenance field test*  * new	The COEs Curricula is divided into 30 modules totaling about 75 hours. Includes COPT plus: • Maximizing Power Gain* • Sourcing Strategies*  * new	The COPEs Curricula is divided into 35 modules totaling about 155 hours. Includes COE plus: • Product Application Guidelines*  * new	The COPAs Curricula is divided into 35 modules totaling about 155 hours. Includes COE plus: • Architectural Application Guidelines*  * new	The COPCs Curricula is divided into thirty-two (32) modules totaling about 140 hours. Includes COPT plus: • Training use of Orst Units* • Developing Orst Courses*  * new	The COTs Curricula is divided into 36 modules totaling about 160 hours. Includes COPC plus: • Corporate Responsibility* • Developing Nations* • Environmental Accounting*  * new	The OTs Curricula is divided into three academic courses (3 credits per) offered at the senior or grad level through affiliate institutions
<b>Learning Objectives</b>	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD	Module lesson objectives: • TBD
<b>Course / Class Delivery</b>	100% online WBT instruction	100% online WBT instruction	100% online WBT instruction	100% online WBT instruction	80% online WBT 20% Instructor led	80% online WBT 20% Instructor led	100% online WBT instruction	50% online WBT 50% Instructor led	100% Instructor led
<b>Testing and Assessment Evaluations</b>	Kirkpatrick evaluation level: • Level 2 (knowledge tests)	Kirkpatrick evaluation level: • Level 2 (knowledge tests)	Kirkpatrick evaluation level: • Level 2 (knowledge tests)	Kirkpatrick evaluation level: • Level 3 (transfer knowledge)	Kirkpatrick evaluation level: • Level 4 (business unit ROI)	Kirkpatrick evaluation level: • Level 4 (business unit ROI)	Kirkpatrick evaluation level: • Level 2 (knowledge tests)	Kirkpatrick evaluation level: • Level 4 (business unit ROI)	Training has: • Level 3 (transfer knowledge)



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<b>Maintenance</b>	Curricula is reviewed prior to every class start for: • Product changes	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Product changes and/or • Quarterly system releases and impact upon procedures	Curricula is reviewed prior to every class start for: • Knowledge advancements
<b>Training Managers</b>	• The Online Training manager manages the General training online.	• The Online Training manager manages the General training online.	• The Online Training manager manages the Technical training online.	• The Online Training manager manages the Technical training online. • The Site Training manager manages real-time online instructors.	• The Online Training manager manages the Technical training online. • The Site Training manager manages on-site instructors.	• The Online Training manager manages the Technical training online. • The Site Training manager manages on-site instructors.	• The Online Training manager manages the General training online.	• The Online Training manager manages the Technical training online. • The Site Training manager manages on-site instructors.	• The Online Training manager manages the Technical training online. • The Site Training manager manages on-site instructors.
<b>Trainers</b>	• No trainers • On-demand WBT	• No trainers • On-demand WBT	• No trainers • On-demand WBT	• One (1) trainer scheduled to conduct real-time online courses • On-demand WBT	• Three (3) trainers conduct Orst on-site training at each training hub.	• Three (3) trainers conduct Orst on-site training at each training hub.	• No trainers • On-demand WBT	• Three (3) trainers conduct Orst on-site training at each training hub.	• Academic institutional instructor • Two (2) trainers scheduled to conduct on-site during student co-op
<b>Issues</b>	Issues for General training include: • TBD	Issues for General training include: • TBD	Issues for Technical training include: • TBD	Issues for Technical training include: • TBD	Issues for Technical training include: • TBD	Issues for Technical training include: • TBD	Issues for Educational training include: • TBD	Issues for Educational training include: • TBD	Issues for Educational instruction include: • TBD



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<b>Administration</b>	No scheduling. All instruction is on demand.	No scheduling. All instruction is on demand.	No scheduling. All instruction is on demand.	<p>Development Manager determines when real-time online instructor-led classes for COEs are needed.</p> <p>Site Training manager schedules instructors and makes necessary training arrangements.</p> <p>Instructors maintain class schedules and assessments.</p>	<p>Quarterly on-site training calendars are provided to training manager &amp; sites. Changes/additions/deletions to calendar are coordinated by site training manager when needs warrant.</p> <p>Development Manager determines when real-time online instructor-led classes for COPEs are needed.</p> <p>Site Training manager schedules instructors and makes necessary training arrangements.</p> <p>Instructors maintain class schedules and assessments. manager.</p>	<p>Quarterly on-site training calendars are provided to training manager &amp; sites. Changes/additions/deletions to calendar are coordinated by site training manager when needs warrant.</p> <p>Development Manager determines when real-time online instructor-led classes for COPAs are needed.</p> <p>Site Training manager schedules instructors and makes necessary training arrangements.</p> <p>Instructors maintain class schedules and assessments. manager.</p>	No scheduling. All instruction is on demand.	<p>Quarterly on-site training calendars are provided to training manager &amp; sites. Changes/additions/deletions to calendar are coordinated by site training manager when needs warrant.</p> <p>Development Manager determines when real-time online instructor-led classes for COTs are needed.</p> <p>Site Training manager schedules instructors and makes necessary training arrangements.</p> <p>Instructors maintain class schedules and assessments. manager.</p>	<p>Professors and academic staff from institution coordinate with Boern training manager to schedule instructors and make necessary training arrangements.</p> <p>Instructors report class schedules and assessments back to institute's academic advisors.</p>
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<b>Other</b>	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD