Request for Quotation (RFQ)
Pre-Vocational Program Provider
RFQ No. 17-0124

A. SUMMARY
WorkNet Pinellas, Inc. dba Career Source Pinellas and Tampa Bay Workforce Alliance, Inc. dba Career Source Tampa Bay (Career Source) is currently seeking a qualified individual/organization to instruct several of its pre-vocational programs both in its St. Petersburg location (7701 N. 22nd Ave.) and Tampa (2605 N. 43rd Street). The program length, number of students and student outcome are detailed in the Scope of this document.

CareerSource Pinellas and CareerSource Tampa Bay, 501(c)(3) non-profit organizations, are the regional workforce boards for Pinellas County and Hillsborough County, respectively. The governing board for each organization is appointed and designated by each local Board of County Commissioners to act as the Workforce Development Board under the provisions of the Workforce Innovation and Opportunity Act.

B. PROPOSAL GUIDELINES AND EVALUATION
To be considered, a Respondent is not required to submit a quotation for all 5 programs. For each program the Respondent is submitting a quotation, the following is required to be included in the RFQ:

1. Provide Program Name
2. Provide statement on the Respondent’s ability to meet the Program Requirements set forth in this document.
3. Provide a statement on whether the respondent has existing curricula in place to address the Program Content and Outline set forth in this document or if curricula will need to be developed.
4. Provide a statement of the Respondent’s expertise in the instruction of the pre-vocational program.
5. Provide the cost of the program.
6. The RFQ is to be submitted no later than October 21st, 5 p.m. EST to rfp@careersourcetampabay.com. Please reference RFQ No. 17-0124 in the subject line. Late submissions will not be considered.
7. Questions may be submitted to rfp@careersourcetampabay.com until October 12th, 5 p.m. EST. Answers will be posted to the Organizations website by October 14th, 5 pm EST. 

8. RFQ will be evaluated on the following criteria:
   a. Cost 0-50 points
   b. Curricula 0-30 points
   c. Expertise 0-20 points

C. SCOPE

The quotation shall be for the following 5 programs:

1. Intro to Maintenance
2. MSSC Certified Production Technician (CPT)
3. Introduction to 3-D Digital Fabrication
4. 3-D Digital Fabrication
5. Advanced 3-D Digital Fabrication

All programs are conducted at both the Tampa and the Pinellas location. The program hours are M-F 8:00 am to 5:00 pm (40 Hours per week).

The following outcomes/evaluations are to be measured:

1. All Program: Instructor Evaluation
2. Intro to Maintenance: NOCTI Exam at conclusion of Programs
3. MSSC CPT: Module exams (4) and the CPT designation
4. Introduction to 3-D Digital Fabrication: Successful completion of final project
5. 3-D Digital Fabrication: NOCTI CAD Exam/Successful completion of final project
6. Advanced 3-D Digital Fabrication: Fanuc Certification

The following is the overall number of hours per program:

- Intro to Maintenance: 120 Hours/8 Students maximum
- MSSC Certified Production Technician (CPT): 120 Hours/15 Students Maximum
- Introduction to 3-D Digital Fabrication: 20 Hours Instruction/40 Hours self-paced learning/ 15 Students Maximum
- 3-D Digital Fabrication: 120 Hours/12 Students Maximum
- Advanced 3-D Digital Fabrication: 120 Hours/6 Students Maximum

D. PROGRAM REQUIREMENTS

The following are the requirements for program delivery:

- Course materials require the CareerSource Pinellas and CareerSource Tampa Bay approval prior to delivery
- Instructors require CareerSource Pinellas and CareerSource Tampa Bay prior approval.
• Reporting Requirements:
  o First Day Sign In Sheet Scanned and emailed to distribution list
  o Weekly Sign In Sheet Scanned and uploaded in designated Drop Box Location
  o Certificates uploaded in designated Drop Box Location
  o Student Evaluations/Student Summary uploaded in designated Drop Box Location
  o Instructor Evaluations/Student Summary uploaded in designated Drop Box Location
  o Proctoring of both the MSSC and NOCTI Exams
  o Communication to all parties regarding any student/classroom issues.

• Career Source shall provide
  o Projector
  o Room
  o 3-D Printers
  o Table Top Routers
  o Fanuc Simulators
  o Exam Vouchers
  o Text Books (CPT, 3D and Advanced 3D)
  o Computers/Software (as needed)
  o Student Roster Friday before class start
  o Approved class schedule
  o Two (2) weeks advanced notice of class cancellation

• Instructor(s) shall provide
  o Course Materials (power point slides, student guides, etc.)
  o Hands-on lab materials/equipment

E. PROGRAM CONTENT AND OUTLINE(S)
The following is the suggested program outline for each course.

Intro to Maintenance Course Outline:

I. Introduction to Maintenance (2 Days)
   a. Math Review
      i. Algebra
      ii. Geometry
      iii. Metric Conversion
      iv. Ratios & Proportions
      v. Graphs & Charts
   b. Print Reading
      i. Types of drawings
      ii. Assembly drawings
      iii. Mechanical drawings
      iv. Electrical drawings
      v. Intro to geometric tolerances
      vi. Terminology
   c. Measurement
      i. Measurement Systems
ii. Measurement tools
d. Hand tools
   i. Types
   ii. Selection
   iii. Storage
   iv. Care & Maintenance
   v. Function
e. Safety
   i. HazComm
   ii. OSHA requirements
   iii. Common hazards
   iv. Fire safety
   v. PPE
f. Maintenance Overview
   i. Types of maintenance
   ii. Record keeping
   iii. Manufacturing systems
II. Introduction to Mechanical Systems (5 Days)
a. Mechanical Systems
   i. Basic mechanics
   ii. Material properties
   iii. Use and Types of fasteners
b. Mechanical Drive Components
   i. Electric Motors
   ii. Direct Drive
   iii. Belt Drive
   iv. Chain Drive
   v. Gear Drive
c. Maintenance & Troubleshooting Drive Systems
   i. Lubrication
   ii. Bearing types and application
   iii. Bearing installation
   iv. Troubleshooting bearing
   v. Alignment of shafts
   vi. Hands-on lab
d. Pneumatic & Hydraulic Systems
   i. Basics of fluid mechanics
   ii. Components & Application
   iii. Schematics & Symbols
   iv. Troubleshooting
III. Intro to Industrial Electricity (3.5 Days)
a. Electrical Safety
   i. Arc Flash Protection
   ii. Electricity and the human body
iii. Common electrical hazards
iv. Lock Out Tag Out (LOTO)
v. Grounding

b. Basics of Electricity
   i. Intro to electrical theory
   ii. Conductors vs. Insulators
   iii. Electric charge & current
   iv. Resistance & resistors
   v. Measuring voltage, current & resistance
   vi. Types of electricity
   vii. Electrical power

c. Measurement
   i. DMM
   ii. Other measuring devices

d. Electrical Prints
   i. Schematics
   ii. Wire diagrams
   iii. Symbols

e. The Laws
   i. Ohm’s Law
   ii. Kirchoff’s law
   iii. Hands-on Lab

f. Circuits
   i. Series
   ii. Parallel
   iii. Series-Parallel
   iv. Hands-on lab

g. Electrical Wiring Basics
   i. Wire size
   ii. Wire color
   iii. Wire splicing
   iv. Wire connections
   v. Hands-on Lab

h. Transformers
   i. Types
   ii. Wiring
   iii. Application
   iv. Hand-on Lab

i. Resistance, Inductance & Capacitance
   i. Series Circuit
   ii. Parallel Circuit
   iii. Application

j. Basics of Motors
   i. DC Motors
ii. AC Motors
iii. Wiring
iv. Troubleshooting
v. Hands-on lab
k. System Control Devices
   i. Relays
   ii. Breakers
   iii. Switches
   iv. Application
l. Troubleshooting Electrical Circuits
   i. Hand-on Lab
IV. Intro to PLC’s (4 Days)
   a. Basic Number System
      i. Binary
      ii. Decimal
      iii. Hexadecimal
   b. PLC Fundamentals
      i. History of PLC’s
      ii. PLC components
      iii. PLC Wiring
      iv. Basic Operation
c. Fundamentals of Logic
   i. Basics of logic
   ii. Relay logic
   iii. Ladder logic
   iv. Hands-on lab
      1. Wire relay logic panel
      2. LogixPro Software
d. PLC Operation
   i. Memory
   ii. Communication
e. Application
   i. Automation
   ii. SCADA
      iii. Advantages & Disadvantages of PLC’s
f. Troubleshooting
   i. Hands-on lab
V. NOCTI Exam: Mechatronics Level 1 (.5 Days)

Certified Production Technician (CPT): Manufacturing TDI (Polk State College) Courseware

Introduction to 3-D Digital Fabrication

I. Introduction to Manufacturing
II. Math Review
   a. Algebra
   b. Geometry
   c. Metric Conversion

III. Introduction to manufacturing drawings

IV. TinkerCad
   a. Tutorial
   b. Basic drawing tools
   c. TinkerCad project

3-D Digital Fabrication

I. Introduction to Manufacturing

II. Computer Basics

III. Math Review
   a. Algebra
   b. Geometry
   c. Metric Conversion

IV. Introduction to manufacturing drawings
   a. Tolerances
   b. Symbols

V. 3D Equipment
   a. Printers
   b. CNC (Mill, Lathe, Router)

VI. CAD/CAM Systems
   a. Rhino, On Shape, Solid Works
   b. madCAM

VII. 3D Modeling

VIII. Hand-on Activities
   a. 3D project – printed
   b. 2D Drawing
      i. Dimension lines
      ii. Sections
   c. 3D Model from 2D Drawing
   d. Create Drawing of 2 mated parts

Advanced 3-D Digital Fabrication

IX. Machining Basics
   a. Basic Machining Practices
   b. Proper Tools selection

X. Introduction to Fanuc CNC
   a. machine configurations
   b. control designations
c. manufacturing process
d. CNC functions

XI. CNC Screen
   a. Terminology
   b. function keys
   c. soft keys
   d. operator's panels

XII. Memory Operations
   a. parameter write enable
   b. memory backup
   c. memory restore

XIII. System Hardware
   a. CNC hardware
   b. servo hardware
   c. spindle hardware
   d. hardware alarms

XIV. PMC Ladder Logic
   a. basic ladder logic
   b. PMC
      i. status display
      ii. alarm display
      iii. parameter display

XV. CNC Troubleshooting
   a. general troubleshooting
   b. CNC alarm categories
   c. CNC alarm troubleshooting
   d. CNC system alarms
   e. Operation failures

XVI. G-code Programming
   a. basic G codes
   b. part program format
   c. mill canned cycles
   d. lathe canned cycles
   e. common program alarms

XVII. Final Project
   a. CNC Program
   b. 3D Print

F. Program Schedule
   The following is the currently approved schedule by course and location.

   Mechatronics Level 1

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<thead>
<tr>
<th>Class Title</th>
<th>Location</th>
<th>Schedule</th>
<th>Start Date</th>
<th>End Date</th>
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**MSSC Certified Production Technician (CPT)**

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<th>End Date</th>
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**Introduction to 3-D Digital Fabrication (TBD)**

No classes scheduled. Expected start 4th quarter 2016

**3-D Digital Fabrication**

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**Advanced 3-D Digital Fabrication (TBD)**

No classes scheduled. Expected start 4th quarter 2016