**Unit Goal Revisions**

**2020-2021**

**Plans for the unit for the second year of the two year plan (19-21)**

**Name of Program/Department: Welding/Manufacturing and Technology**

**PERSONNEL REQUESTS:** Below please list any NEW personnel requests. All full-time requests should be listed first followed by any part-time requests. *\*This does not include replacements for current personnel who may leave during the year, because their salary is already included in your budget. \** If you have no personnel requests, you may skip this section.

**Brief Description of Request:**

Requesting a fulltime welding instructor to instruct at theNew Shelby-Hoover Welding lab and support other campus welding labs.

**Proposed Job Title:**

Fulltime Welding Instructor

**Salary Schedule:**

D1

**Annual Salary and Benefits (This information can be obtained from HR):**

$49,934 to $89,636 plus benefits

**Justification to support personnel request including data:**

Existing Jefferson State Campus Welding lab has exceeded maximum learner capacity of 20. Therefore, the new Shelby-Hoover Campus Lab will accommodate this maximum learner capacity with a qualified welding instructor.

*\*Please copy and paste the headings above for each personnel request if you have more than one.*

**EQUIPMENT REQUESTS:** Below please list *ANY* equipment requests, including replacing old equipment. If you don’t have any equipment requests, you may skip this section. Please number your requests for easier tracking and reference.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **# requested** | **Equipment Location**  **(Campus, Bldg, and Room #)** | **Unit Cost** | **Total Cost** |
| 1.  Virtual Reality Training System | 1 | Jefferson Campus, Manufacturing Technology Building, Room 108 | $100,000 | $100,000 |
| 2.  NCCER Virtual Training System | 2 | Jefferson Campus, Manufacturing Technology Building, Room 230:  (25) Chromebooks  (1) Charging Cart  Shelby-Hoover Campus, Welding Lab  25 Chromebooks  1 Charging Cart | $200  $600  $200  $600 | $5,000  $600  $5,000  $600  $11,200 |
| 3.  Vision Inspection System | 3 | Jefferson Campus, Manufacturing Technology Building, Room 108  Pell City Campus  iCADEMY Facility | $50,000  $50,000 | $50,000  $50,000 |
| *\*If you need additional rows please right click in the row above and select “insert row below”* | | | **GRAND TOTAL:** | $211,200 |

**Justification and data (if applicable) to support equipment request:**

Virtual Reality (VR) Training System:

VR systems are being used in manufacturing for training and visualization of machines for diagnostics and troubleshooting. Therefore, it is important to expose technical learners to the advanced technologies being used in industrial, manufacturing, and process control environments. Also, as an instructional technology tool, VR systems are being used in classrooms to engage learners with subject content material being delivered in the learning environment. This VR system will be used in ADM106 (Quality Control Concepts) and MET220 (Mechanical Systems 1) course offerings.

NCCER Virtual Training System:

This virtual training system will aid in the assessment of learners enrolled in WKO 110 (NCCER Core) course. The learner’s assessment scores are immediately uploaded to their registered online account. This method of testing eliminates paper assessments. It is required by NCCER that learning institution store all paper assessments for at least five years. These assessments must be secure. With assessments stored on the cloud, it eliminates physical storage and security at the learning institution.

Vision Inspection System:

Vision Inspection Systems (VIS) are being deployed on automation sorting and parts identification processes in manufacturing facilities. Also, quality control and assurance departments use vision inspection systems to determine defective parts. The VIS will be used in the MET237 (Inspection Principles) course to augment the technical skills and knowledge obtain from the Portable Coordinating Measuring Machine (PCMM) currently implemented for training in the course. Honda and Kamtek have inquired if the college have such a system to train our Industrial Maintenance Technology learners. Currently, Honda and Kamtek use VIS in their industrial manufacturing processes.

**ALL OTHER REQUESTS:** Below please list any additional requests that were not included above. This may include items such as; professional memberships, monetary budget requests for department or program activities, accreditation fees, etc… If you don’t have any of these requests, you may skip this section.

|  |  |  |
| --- | --- | --- |
| **Description Of Need** | | **Cost** |
| Summer STEAM Camp: Food, promotional items, and learning activities materials | | $4,000 |
| Manufacturing Days Events: Wonders of Manufacturing and Manufacturing Expo: Food and promotional items | | $2,000 |
| Industry 4.0 Workshop: Food and promotional items | | $2,000 |
| Proteus Arduino IoT Cloud Software | | $3,700 |
| Electronic Technician Association (ETA) Certifications (DC, AC, Digital, and Analog Modules) | | $30/learner |
| Siemens Mechatronics Certification Learning Management System (LMS) | | $10,000 |
| Siemens Mechatronics Level 2 Instructor Certification (Training Held in Norcross, GA) | | $8,000 |
| Siemens Mechatronics Level 3 Instructor Certification (Training Held in Nuremburg, Germany) | | $15,000 |
| MSCC Certified Production Technician (CPT) Certification | | $5,000/semester |
| *\*If you need additional rows please right click in the row above and select “insert row below”* | **TOTAL:** | $49,700 |

**Justification and data (if applicable) to support request:**

Recruiting and Community Outreach Events:

Summer STEAM Camp

Manufacturing Days Events

Industry 4.0 Workshop

These annual recruiting and community outreach events are used to attract learners into Manufacturing and Technology Career Degree Program offerings.

1. Industrial Maintenance Technology
2. Electronics
3. Biomedical Equipment Technology
4. Automotive/Automated Manufacturing
5. Computer Aided Drafting Design
6. Welding Technology
7. Manufacturing Systems Technology

Technical Learner Certifications

ETA and MSSC: Provide credentials and certification opportunities for technical learners enrolled in the following course offerings.

ETA Certifications

|  |  |
| --- | --- |
| **JSCC Course Offerings** | **ETA Certification** |
| ELM200: Electric Circuits I | EM1 (DC Electronics) |
| ELM201S: Electric Circuits II | EM2 (AC Electronics) |
| ELM202: Digital Circuits I | EM4 (Digital Electronics) |
| ELM205: Electronics I | EM3(Analog Electronics) |

MSSC Certifications

|  |  |
| --- | --- |
| **JSCC Course Offerings** | **MSSC Certification** |
| ADM106: Quality Control Concepts | CPT Module 2: Quality |
| AUT102: Lean Manufacturing and Industrial Safety | CPT Module 1: Safety |
| AUT144: Manufacturing Systems, Methods, and Processes | CPT Module 3: Processes and Production |
| MET220: Mechanical Systems I | CPT Module 4: Maintenance Awareness |

Siemens Mechatronics Certification LMS

This LMS will support the training and delivery of assessments for learners to obtain Siemens Mechatronics Level I Certification. The courses to benefit from the LMS are listed next.

AUT130: Fundamentals of Industrial Hydraulics and Pneumatics

AUT 208: Automated System Diagnosis & Troubleshooting

ATM211: Introduction to Programmable Controllers

ELM200: Electric Circuits I

ELM201S: Electric Circuits II

ELM202: Digital Circuits I

ELM205: Electronics I

MET220: Mechanical Systems I

Siemens Mechatronics Level I and II Instructor Certifications

Level I and II Mechatronics Certifications will allow two instructors in the Manufacturing and Technology Department to continue enhancing their knowledge and hands-on skill in this high demand multi-interdisciplinary technical field. Technical learners enrolled in the course offerings listed above will benefit from such advanced knowledge. This knowledge will aid in technical learners obtaining their Mechatronics Level I Certifications.

Proteus Arduino Internet of Things (IoT) Cloud Software

This software bundle will allow technical learners to obtain hands-on knowledge of IoT technologies associated with Industry 4.0. Technical learners will simulate IoT systems using the Arduino embedded electronics prototyping platform. Besides creating virtual models of IoT systems, the Proteus cloud software bundle allows the software models to be installed and tested on a physical Arduino embedded electronics prototyping platform. In addition, technical learners will obtain electrical and electronics circuits troubleshooting skills required to maintain current Industry 4.0 manufacturing systems. The courses to benefit from the cloud software are listed next.

ATM211: Introduction to Programmable Controllers

AUT 208: Automated System Diagnosis & Troubleshooting

ELM200: Electric Circuits I

ELM201S: Electric Circuits II

ELM202: Digital Circuits I

ELM205: Electronics I

MET220: Mechanical Systems I

**PRIORITY PAGE:** Please consider all budget items described above including personnel, equipment, and other then list them below in priority order. The most important and needed request should be listed first, the second most important second, etc… A full description is not needed, just the title and/or name of the item is sufficient.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Section (Personnel, Equipment, Other)** | **Title** | **Total Cost** |
| **Priority #1** | Equipment | Virtual Reality Training System | $100,000 |
| **Priority #2** | Equipment | NCCER Virtual Training System | $11,200 |
| **Priority #3** | Equipment | Vision Inspection System | $100,000 |
| **Priority #4** | Other | Siemens Mechatronics Certification Learning Management System (LMS) | $10,000 |
| **Priority #5** | Other | Proteus Arduino IoT Cloud Software | $3,700 |
| **Priority #6** | Other | Electronic Technician Association (ETA) Certifications (DC, AC, Digital, and Analog Modules) | $30/learner |
| **Priority #7** | Other | MSCC Certified Production Technician (CPT) Certification | $5,000/semester |
| **Priority #8** | Other | Manufacturing Days Events: Wonders of Manufacturing and Manufacturing Expo: Food and promotional items | $2,000 |
| **Priority #9** | Other | Industry 4.0 Workshop: Food and promotional items | $2,000 |
| **Priority #10** | Personnel | Siemens Mechatronics Levels I and II Instructor Certifications | $23,000 |
| **Priority #11** | Other | Summer STEAM Camp | $4,000 |

*\*If you need additional rows, please right click in the row above and select “insert row below”*