

Dixie State University
Associate of Applied Science - Operations Management
3-Year Program Review
January 30, 2015

Introduction

This 3-year program review for the AAS in Operations Management is limited in its ability to comply with standard Regent review format. The AAS in Operations Management is a special case in DSU associate of applied science degrees. It is a career ladder collaborative degree offered in conjunction with the Dixie Applied Technology Center, Manufacturing Operations Program. The competencies and articulation of coursework for the DXATC modules were developed in collaboration with DSU and under the supervision of the Utah State Board of Regents. The Operations Management core, technical courses are taught at the DXATC and transferred as a completed 900 hour program for 30 DSU semester credits. They are then supplemented with DSU required AAS completion courses, including general education courses. Feedback on ways to improve review of these ATC collaborative programs would be greatly appreciated.

Overview

The Dixie State University (DSU) Associate of Applied Science Degree in Operations Management (AAS OM) is designed to provide students with a strong applied foundation in the management of activities and processes directly associated with the conversion of inputs (materials, labor, and energy) into outputs (good and services) in a value-added fashion. The most unique feature of DSU's program is the career ladder approach to education and training that is specifically designed to prepare non-management employees for supervisory and management positions. The degree is in response to expressed need and demand of local manufacturers and other industries, K-12 educators, the Dixie Applied Technology College (DXATC), the Department of Workforce Services, and the community, including those responsible for encouraging economic development.

The DSU AAS OM degree includes four main features:

1. An AAS degree with an emphasis in Operations Management.
2. A career ladder model of development and seamless educational progression that takes students from their current work environment to an associate of applied science, and then for those wishing to pursue further education, on to a bachelor's degree. Students acquire practical, applied management skills throughout the process. For students choosing to further their management education and credentials, a baccalaureate degree in Integrated Studies with an emphasis in Operations Management has been developed at DSU.
3. Partnerships with local industry provide education and training for outstanding incumbent workers, enabling them to progress to management level positions.

4. Expansion of partnerships with Washington County School District and DXATC to develop articulated technical management career pathways for grades 9-12 and DXATC students interested in applied technical fields that can serve as stepping stones to baccalaureate college degrees.

The AAS OM degree program is closely aligned with DSU's mission statement and core themes as stated below.

DSU Mission Statement

Dixie State University is a teaching institution that strives to enrich its community and the lives of its students by promoting a culture of learning, values, and community.

Core Theme 1: A Culture of Learning - Dixie State University promotes a campus-wide culture of learning; delivers excellent teaching; and prepares knowledgeable and competent students who achieve their educational goals.

Core Theme 2: A Culture of Values - Dixie State University invests in a culture of values which include service, citizenship, diversity, ethics, and collaboration.

Core Theme 3: A Culture of Community - Dixie State University builds and maintains strong relationships between students, faculty, staff and community to foster economic growth and a continuum of educational, cultural and recreational enrichment.

Curriculum

The AAS OM includes 30 credit hours in core operations courses, 15 credit hours in general education courses, and 16 credit hours of electives. Through an Articulation Agreement with the DXATC, five (5) Operations Management modules are offered and taught (900 contact hours) by DXATC. These are accepted by DSU as 30 credit hours (10 DSU courses) fulfilling core operations management requirements. For this reason, this 3-year program review is not following the standard review format suggested by the Utah State Board of Regents. The competencies articulated by DSU for the AAS OM core operations courses are summarized below. For reference, the original Articulation Agreement between DSU and DXATC for the AAS OM degree is attached as Appendix A.

Management Practices and Principles	Business Principles and Practices	Basic Workplace Supervisory Skills
<ul style="list-style-type: none">- Operations and project management- Quality Management- Procurement and supply chain management- Customer and	<ul style="list-style-type: none">- Business and employment law- Business communications- Economics- Basic statistics	<ul style="list-style-type: none">- Verbal and written communications- Critical thinking- Human relations- Decision-making- Mathematical

stakeholder service - Planning and scheduling - Human resource management - Cost analysis, estimating and control - Health and safety	- Applied management accounting - Ethics - Business computer proficiency	computation - Conflict resolution - Team dynamics - Presentation - Time management - Leadership - Problem solving
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The general education and elective requirements are met through courses offered at DSU. The program provides courses, taught at the DXATC which specifically address the core competencies identified by DSU. These courses focus on operations management, quality control, safety, leadership, applied business finances; as well as courses specific to an emphasis area, such as manufacturing, construction or service operations. Please see Appendix B for a summary of AAS OM core operations courses and the DSU AAS OM Program Checklist. After completion of the AAS OM degree, students are encouraged to continue on an education and career ladder track to a bachelor's degree of their choice. Elective courses in baccalaureate pre-requisites and business-related areas are recommended.

The AAS OM was approved as submitted in June 2009 and students were admitted to the program beginning Fall Semester 2010.

Enrollment Statistics

From program inception until September 2013, AAS OM student enrollments and statistics are summarized below. Note: During this period 39 students have completed all 900 hours of the DXATC Manufacturing program (CIP150613).

DXATC Operations Management Program Enrollees: 52
 DSU AAS OM Total Enrollees: 15
 DSU AAS OM Graduations: 7
 DSU AAS OM Current Enrollees: 8
 DSU Bachelor's Degree Completions: 2
 DSU Other Degree Current Enrollees: 26

Finances

As the core courses for the AAS OM degree are offered and taught by the DXATC, DSU incurs essentially no marginal financial obligation in offering the degree. General education and elective requirements are met through existing courses where sufficient capacity exists.

Appendix A



Course Articulation Agreement

Dixie State College of Utah and Dixie Applied Technology College

Purpose of Agreement:

This agreement is between Dixie State College of Utah (DSC) and Dixie Applied Technology College (DXATC) and outlines the conditions for the granting of credit at DSC for coursework completed at DXATC. This agreement serves to establish an education pathway for students enrolled in DXATC's program modules to transfer credit for work completed at DXATC towards a degree at DSC.

Terms and Conditions of agreement:

- A. This agreement is a general agreement between DSC and DXATC. Specific courses, course descriptions and comparisons, learning competencies, and credits to be included under this general agreement will be established by separate written Addendum and approved by the chief academic officers of DSC and DXATC. Any and all Addenda listing specific courses to be included under this general agreement must refer to this general agreement, or its most recent revision, and shall not conflict with or contradict any of the terms and conditions of this general agreement. There is no pre-set limit to the number of Addenda that may be included under this general agreement. Any and all Addenda to this general agreement shall be terminated upon termination of this general agreement. Any and all Addenda shall be reviewed annually by the parties, in June of each year, and reaffirmed in writing by each of the chief academic officers.
- B. As a general rule, comparisons between DXATC program modules and DSC courses shall be based on the formula 30 DXATC combined lecture and lab hours = 1 DSC semester credit hour. In accordance with this general agreement, DSC shall grant credit to any student completing any qualified DXATC course/module as approved by the institutions' chief academic officers, per the above description. However, no DSC credit shall be given for any incomplete DXATC program module. This agreement applies to all qualified courses completed up to five years (1825 days) prior to the execution of this agreement and continues until this agreement is terminated.
- C. This agreement may be terminated by either party at any time, either in whole or in part, but will remain in effect unless and until cancelled by either party in writing. In order to accommodate academic planning, termination or changes shall not be effective until one year (365 days) after written notice of cancellation or change, unless otherwise agreed upon by the parties.

A handwritten signature in black ink, appearing to read 'Richard D. VanAusdal', is written over the printed name.

Richard D. VanAusdal, Campus President
Dixie Applied Technology College
1071 East 100 South
Saint George, Utah 84770

A handwritten signature in black ink, appearing to read 'Stephen D. Nadauld', is written over the printed name.

Stephen D. Nadauld, President
Dixie State College of Utah
225 South 700 East
Saint George, Utah 84770

Appendix B

COURSES for AAS in OPERATIONS MANAGEMENT

MAN 1010 – Manufacturing Processes I (3 credits)

Provides a general understanding of, and experiences with, commonly used manufacturing techniques including thermal mass-reducing, chemical reducing, consolidation and deformation processes. The course also contains content on the use of lean manufacturing processes and introduction to the Six Sigma standard in evaluating quality. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry codes and standards
- Industry materials and methods
- Industry testing and materials performance analysis
- Industry systems
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

MAN 2010 – Manufacturing Processes II (3 credits)

Provides an advanced understanding of, and experiences with, commonly used manufacturing techniques including mechanical, thermal and chemical joining processes, annealing (softening), hardening, surface preparation and surface coating processes. The course also contains content on the use of lean manufacturing processes and Six Sigma standards. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry tools and equipment operations and maintenance
- Industry-related design and modeling
- Industry codes and standards
- Industry materials and methods
- Industry testing and materials performance analysis
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

MAN 1020 – Industrial Maintenance I (3 credits)

Provides a general understanding of, and experiences with, commonly used industrial maintenance techniques including basic maintenance principles, service and repair principles, electrical systems, electronics and programming controllers. The course also contains content

on the use of total productive maintenance (TPM) and continues to develop the Six Sigma standard in evaluating quality. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry systems
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

MAN 2020 - Industrial Maintenance II (3 credits)

Provides an advanced understanding of, and experiences with, commonly used industrial maintenance techniques including refrigeration systems, boiler systems, heating, air conditioning and ventilation systems, mechanical systems, fluid power systems, and troubleshooting techniques. The course also contains content on the use of total productive maintenance (TPM) and continues to develop the Six Sigma standard in evaluating quality. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry tools and equipment operations and maintenance
- Industry-related design and modeling
- Industry systems
- Planning and scheduling
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

OPER 1010 – Quality Systems and Processes I (3 credits)

Provides an introductory knowledge of the use of quality systems and processes in manufacturing, including an overview of the ISO 2008 and total quality management (TQM) systems. The course covers standards in evaluating quality and reducing variance in manufacturing products with related experiences focusing on Six Sigma leadership and working toward Greenbelt Six Sigma status for each student. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry documents creation, reading and assessment
- Industry testing and materials performance analysis
- Industry systems
- Quality management
- Basic Statistics
- Time management
- Problem solving

- Decision-making
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

OPER 2010 - Quality Systems and Processes II (3 credits)

Provides an intermediate knowledge of the use of quality systems and processes in manufacturing. The course continues development of the ISO 2008 and TQM systems and further develops the Six Sigma standards in evaluating quality and reducing variance in manufacturing products. Advanced experiences focusing on Six Sigma leadership and attainment of Greenbelt Six Sigma status for each student. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry documents creation, reading and assessment
- Industry testing and materials performance analysis
- Industry systems
- Cost analysis, estimating and control
- Quality management
- Time management
- Problem solving
- Decision-making
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

OPER 1020 – Safety and OSHA Compliance I (3 credits)

Provides a general knowledge of correct safety practices in the workplace, focusing on the characteristics of an effective safety culture, management commitment to safety, defining a value system, OSHA voluntary guidelines for safety management, management leadership and employee commitment to effective safety practices. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry codes and standards
- Industry materials and methods
- Health and safety
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

OPER 2020 – Safety and OSHA Compliance II (3 credits)

Provides an advanced knowledge of correct safety practices in the workplace with a continued focus on the characteristics of an effective safety culture, including assigning safety responsibilities, behavior-based safety processes, developing a hazard inventory and a hazard protection and control system. Students will learn to conduct effective incident investigations, medical surveillance programs, assessments of safety and training needs, job hazard analysis, and effective measurements of safety status. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry codes and standards
- Industry materials and methods
- Planning and scheduling
- Cost analysis, estimating and control
- Health and safety
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

OPER 2070 – Leadership, Supervision and Resource Management (3 credits)

Provides a focus on management leadership, including development of accountability, high performing organizations, customer oriented results, shared power, higher involvement, establishing a corporate vision, situational leadership, self-leadership, partnering for performance and leading change. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry operations and project management
- Business management
- Critical thinking
- Leadership
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

OPER 2080 – Operational Management (3 credits)

Provides an intermediate level knowledge on managing operations in manufacturing, construction and transportation. Topics include understanding competitiveness, strategy, productivity, forecasting products, service design, reliability, decision theory, process selection, facility layout, linear programming, learning curves, supply chain management (SCM), inventory management, scheduling and overall project management. The course includes lectures, site visits, laboratory work and supervised OJTE's (on-the-job experiences).

- Industry–related design and modeling
- Industry operations and project management
- Planning and scheduling
- Cost analysis, estimating and control
- Business communications
- Oral and written communication
- Team dynamics
- Presentation

DSU AAS OM Program Checklist

OPERATIONS MANAGEMENT						
ASSOCIATE OF APPLIED SCIENCE						
Name:		ID:	Contact:			
GENERAL EDUCATION REQUIREMENTS						3-4 credits
<input type="checkbox"/>	Course Number	Description	CR	Prerequisites & Notes	Grade	Semester
<input type="checkbox"/>	ENGL 1010	Introduction to Writing	3	Placement score, pre-/co-req, LIB 1010		
<input type="checkbox"/>	LIB 1000/1010	Information Literacy	0-1	English placement score for class		
GENERAL REQUIREMENTS						11 credits
<input type="checkbox"/>	CIS 1200	Computer Literacy	3			
Complete one of the following:						
<input type="checkbox"/>	MATH 1010	Intermediate Algebra	4	MATH 0990 (C or higher) or placmt score		
Or higher MATH course						
Complete the following:						
<input type="checkbox"/>	BUS 1370	Human Relations	3			
<input type="checkbox"/>	MGMT 2510	Career Management	1	ENGL 2010 or Dept. Chair permission req		
RECOMMENDED ELECTIVE						
<input type="checkbox"/>	Course Number	Description	CR	Prerequisites & Notes	Grade	Semester
<input type="checkbox"/>	BUS 1001	First Year Business Experience	1			
OPERATIONS MANAGEMENT CORE DISCIPLINE REQUIREMENTS						18 credits
<input type="checkbox"/>	Course Number	Description	CR	Prerequisites & Notes	Grade	Semester
<input type="checkbox"/>	OPER 1010	Quality Systems and Processes I	3			
<input type="checkbox"/>	OPER 1020	Safety and OSHA Compliance I	3			
<input type="checkbox"/>	OPER 2010	Quality Systems and Processes II	3	Program admission & OPER 1010		
<input type="checkbox"/>	OPER 2020	Safety and OSHA Compliance II	3	Program admission and OPER 1020		
<input type="checkbox"/>	OPER 2070	Ldrshp, Sprvsr, & Resource Mgmt	3	Program admission		
<input type="checkbox"/>	OPER 2080	Operational Management	3	Pgm admission & MAN 2010 & MAN 2020		
MANUFACTURING MANAGEMENT SPECIALIZED TECHNICAL AREA REQUIREMENTS (program admission required)						12 credits
<input type="checkbox"/>	MAN 1010	Manufacturing Processes I	3			
<input type="checkbox"/>	MAN 1020	Industrial Maintenance I	3			
<input type="checkbox"/>	MAN 2010	Manufacturing Processes II	3	MAN 1010		
<input type="checkbox"/>	MAN 2020	Industrial Maintenance II	3	MAN 1020		
ELECTIVES						See Graduation Requirements
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
GRADUATION REQUIREMENTS						
<input type="checkbox"/> Subtract duplicated and developmental (0999 and below) credits. <input type="checkbox"/> Complete a minimum of 63 college-level credits (1000 and above). <input type="checkbox"/> At least 20 lower-division credits at DSC for institutional residency. <input type="checkbox"/> Cumulative GPA 2.0 or higher. <input type="checkbox"/> Minimum B- grade in required CIS courses. <input type="checkbox"/> Grade C- or higher in each Discipline Core Requirement and Discipline Elective Requirement course. <input type="checkbox"/> GPA 2.5 or higher Discipline Core Requirement and Discipline Elective Requirement courses..						