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TOWARDS AN MS PROJECT MANAGEMENT

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Sandia Presentation
SAND TBD
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OUTLINE

- Memorandum of Understanding between the University of New Mexico (UNM) and Sandia National Labs (SNL)
- Traditional Project and Program Management Courses and Programs at UNM
- Progress Toward a Masters in Science in Project Controls, Project Management, and Program Management (MS-PM)
- New Courses in Project Controls, Project Management, and Program Management
- Method of Delivery

SNL AND UNM AS PARTNERS

- Sandia National Laboratories and UNM Anderson have a signed agreement
  - Focused on Graduate and Undergraduate project controls, project management and program management
- UNM Anderson has an MS-PM Advisory Board
  - Two representatives from SNL are on the Board

Sandia National Laboratories

ANDERSON

SNL COMMITMENT TO PM EXCELLENCE

- Competency definition
- Standard processes and procedures
- Intern program
- Career lattice
- In-house and third-party training

Sandia National Laboratories

ANDERSON

UNM ANDERSON PM HISTORY

- Project Management at UNM 20 Years Ago
  - A few courses at the UNM Engineering School and the Anderson School of Management
- Project Management at Anderson 7 Years Ago
  - Assessing the value of a Master's in project and program management with the community
  - An education based program for full time students and advanced adult education
- First Phase – MBA Management of Technology (MOT) track in project management
- Second Phase – Development of new undergraduate and graduate courses
- Third Phase – Development of a Post-Master's Graduate Certificate in Project Controls and Project Management
- Fourth Phase – Masters of Science in Project Management

CURRENT PM EDUCATION AT UNM

- UNM Anderson MBA in MOT tract in Project Management
  - Great Student Success and National top 10 ranked program
- Post Masters Graduate Certificate in Project Management
- **Proposed MS in Project Management with UNM Engineering School**
- Undergraduate courses moving toward a concentration

PROPOSED MS PM

Anderson School of Management

Proposed MS in Project Management
Areas of Study & Curriculum
(30 credit hours)

The MS-PM is a graduate-level program for students interested in the following areas:

- Project Controls
- Project Management
- Technology Project Management
- Program Management
- Technology Program Management

Advisement prior to first-semester enrollment and a formal plan of study is mandatory. Individual students will be advised to enroll in specific classes that match their intended career path and complement their bachelor's degree and work experience. Plan of study approvals will be granted by a designated faculty advisor or committee. Project management and technology project management will have differing undergraduate course requirements.

Students who earn the MS-PM will be positioned to enter the New Mexico workforce in both the private and public sectors, taking on technical and managerial roles in Project Controls, Project Management and Program Management. We utilize existing courses wherever possible. This is designed to be an accredited program. Students must complete a minimum of 30 credit hours of courses within the following groups.

Sample Course Syllabi

We can provide syllabi for project and program management courses such as Introduction to Project Management and Technology Project Management upon request.

MS-PM Checklist

Questions regarding MS-PM requirements should be addressed with an MS-PM advisor.

ANDERSON

PROPOSED MS PM CORE

Prerequisite

- CE/ME 455 Engineering Project Mgt. or MGMT 490/594 Introduction to Project Mgmt.

Core Group – 15 Credit hours (Must take 5 of 6 courses)

- CE 577 Projects Control (or equivalent)
- MGMT 519 Technology Project Management
- MGMT 503 Managerial Accounting
- MGMT 570 Analysis of the Financial System
- MGMT 568 Creative Leadership
- MGMT 594 Risk Analysis for Projects and Programs

MANAGEMENT CORE GROUP

Management Group (Must take at least 1 course, 3 credit hours)

- MGMT 501 Data Driven Decision Making
- MGMT 503 Managerial Accounting
- MGMT 506 Managing People in Organizations
- MGMT 511 Technology Innovation and the Global Environment
- MGMT 512 Strategic Management of Technology
- MGMT 515 Innovative Product Development
- MGMT 520 Operations Design and Decisions
- MGMT 570 Analysis of the Financial System
- MGMT 557 Launching New Business and Projects

TECHNOLOGY CORE GROUP AND CAPSTONE

Technology Group (Must take at least 1 course, 3 credit hours)

- MGMT 513 Technology Forecasting and Assessment
- MGMT 517 Technology Program Management
- ECE 595 System Engineering for Project Management
- MGMT 594 Advanced Project Management Techniques
- MGMT 631 Information Systems Project Management (MSISI and MS-PM approvals required)
- MGMT 697-X Graduate Internship in PCPPM

Capstone Course (Must take 1 course, 3 credit hours)

- MGMT 517 Technology Program Management
- MGMT 551 Problems

STATUS OF MS-PM PROGRAMS

- Proposal for a graduate Masters of Science program in PM in approval process
- The program developed through focus group sessions and interviews
- Participants
  - Leading PM educators
  - Large Firms
  - SME's (Small and Medium Enterprises)
  - Entrepreneurial firms
  - Industry Associations
  - Government officials

MS APPROVAL PROCESS PROGRESS REPORT

- Executive Summary approved by the UNM Provost's office
- Post graduate certificate program in approval process pipeline
- Funding for the program from National Labs
- Numerous letters for support for the program

2014	2015	2016	2017	2018/2019	2020
MBA (MOT) Tract Project and Program Management concept socialized	A MS degree in Project Management discussion & focus groups	MS-PM & Undergraduate Pilot study Proposed	MS-PM Exec summary Post graduate Degree status change approved Anderson Approval Process underway	UNM and New Mexico Higher Education Approval	On UNM Books

SOME NEW COURSES

- Risk Analysis for Projects and Programs
- Accounting for Project and Program Management
- Financing Public and Private Projects
- Project Controls
- Creative leadership
- Roadmapping your Business (undergraduate)
- Systems Thinking for Project Management (Undergraduate)
- Advanced Project Management Techniques
- Advanced Scheduling Techniques (Undergraduate)

COURSE OFFERING MODE

- Courses are working professional and full-time student friendly
  - Courses start at 4:00 PM and go until 6:30 PM
- Offered in a combination of in-class, online and through "Zoom" equipped classrooms
- All classes are recorded so students can view the lectures as many times as they like
- Possibility of it being offered under our managed on-line program

EXAMPLE 1 : INTRODUCTION TO PROJECT MANAGEMENT

Course material co-developed by Professors and experts at Los Alamos National Laboratory (LANL), SNL, SME's, and organizations in NM

Class 1 Mgt. 594

Introduction

Team

Alex Greenberg
Vidya Satyanarayana
Joanna Kramer
Yorgos Marinakis
Robert Tierney
Steve Walsh

NATURE OF THE COURSE

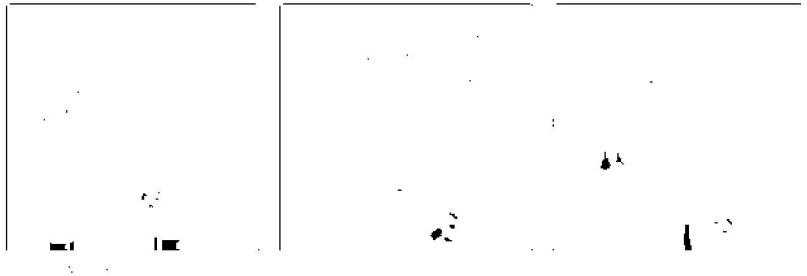
Introductory course

Develop an understanding of project management

Covers key components of project management

project controls, Requirements gathering, Earned Value Management (EVM), project integration, project scope management, project time and cost management, quality management, human resource considerations, communications, general risk management and critical path analysis

Provide the basics of Primavera from Oracle



NATURE OF THE COURSE

- Projects and how they differ from operations
- Basic project management principles
- Earned Value Management (EVM)
- Introduction to Primavera
- Basic project management areas such as: project controls, scheduling, budgeting, managing risk
- Requirements gathering
- Work Breakdown Structure (WBS)
- Terms and definitions

MORE ON THE COURSE

Course Content

The Analytical Topics
Project management terms and definitions
Work Breakdown Structure (WBS) and Defining & Sequencing Activities
Planning and Acquiring resources
Risk management typologies, assessment and mitigation
Project management team and leadership
Developing a Project Plan
Critical Path, Budgeting and Scheduling
Earned Value Management
Project Controls
Project scheduling
Requirements gathering and analysis
Using Primavera and its advantages
Overview of other approach, terms and nomenclature like scrum, agile, waterfall

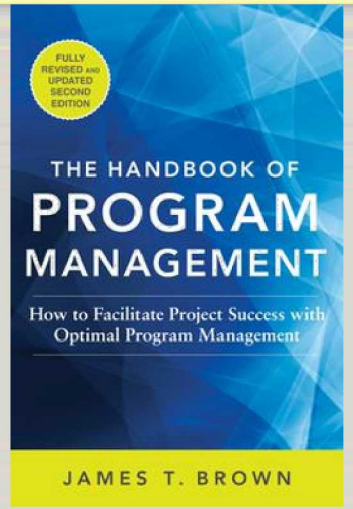
Course Evaluation

Assignment	Weight
• Learning checks	40%
• Midterm exam	20%
• Primavera Project initiation	10%
• Oral presentation	10%
• Written final report	15%
• Class participation	5%
• **Total Weight**	**100%**

EXAMPLE II: PROGRAM MANAGEMENT

Class 1 Mgt. 517
Introduction

Team
Alex Greenberg
Vidya Satyanarayana
Joanna Kramer
Yorgos Marinakis
Robert Tierney
Steve Walsh



Course Content -12 topics

1) Brown's Model
2) Attributes of an effective program manager
3) Stakeholder Management
4) Program Process Strategy
5) Program Execution Processes
6) Team Building at the Program Level
7) Program Communication Processes
8) Program Risk Management
9) Change Management
10) Portfolio Management Essentials
11) Positive Program Outcomes
12) The 50 % Solution

MORE ON THE COURSE

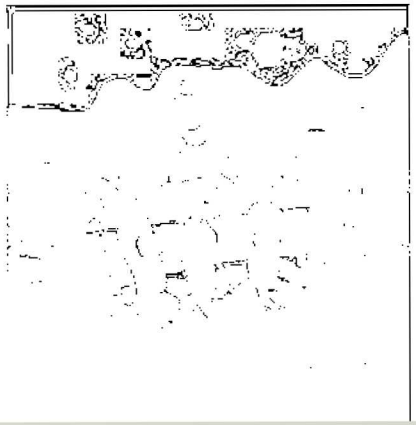
Develop understanding of program management

Portfolio approach

The difference between program and project management.

The importance of process in program management.

Introduce the concept of a firm as a series of projects



Course Evaluation

Midterm Test	20%
Written Risk Management Plan	10%
Risk Management Oral Presentation	10%
Article Presentation	10%
Learning Checks	20%
Written Final program Management Plan	20%
Oral Presentation of Program Management Plan	10%
Total Weight	100%

THE GOOD: SAMPLE STUDENT COMMENTS

- "Knowledge could be immediately applied to work
  Examples Quadrant Chart, Stakeholder Management Principles"

- "Instructional style was fluid and conversational; Peer to Peer"

- "Professor had deep knowledge in the field and connected through examples of actual projects and case examples"

- "Article research and report activity was very valuable"

THE GOOD: SAMPLE STUDENT COMMENTS

- "Real life application of concepts, relayed through examples and experience was critical to engaging the concepts to the course"
- "EVM text was excellent"
- "Recordings were a plus"
- "Remote connection was a plus"

THE BAD: SAMPLE STUDENT COMMENTS

- "Not enough EVM"
- "Not enough in class exercises"
- "Not enough time to practice P6 in class"
- "Project and specificity of knowledge"

QUESTIONS