



Workforce Development – Our Needs and Our Opportunities

Kevin Chang, Ph.D., P.E.
University of Idaho

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Snowbird, UT

Perspectives

- Washington State Department of Transportation; Shoreline, WA
- King County; Seattle, WA
- University of Idaho; Moscow, ID
- Chair, ITE Transportation Education Council



Public

Private

Salary



Work Schedule /
Pace

Job Security



Training

For:

Organization: 432306 - 405
Management Level: X - NON-MANAGEMENT
Job Class: 66120 - TRANSP ENG 1
Training Matrix: ENGINEERING (DES D

DOT-RQB424P4-A ** W.S.D.O.T. Automated Training Management Sy
Jan 14, 2003 Recommended Training Plan

For:

Organization: 432306 - 405
Management Level: C - ENTRY MANAGEMENT
Job Class: WMS02 - WMS BAND 2
Training Matrix: ENGINEERING (DES DESIGN Group)



Washington State
Department of Transportation

Course Code	Hours	Course Title	Status	Pri	Date	TT
*** Recommended Ma						
LEADERSHIP & MANAGEMENT TRAINING PLAN						
AAA	32	ENTRY MANAGEMENT DEVELOPMENT				
*** Recommended Matrix ***						
TECHNICAL/PROFESSIONAL TRAINING PLAN						
AC3	8	CN: EXCAVATION & EMBANKMENTS				
ADH	40	GEN: CONTRACT PLANS READING				
AGH	16	DES: HYDRAULICS, HIGHWAY DRA				
APK	24	SUR: BASIC SURVEYING (SELF-S				
AAJ	16	DES: CONTRACT PLANS & ESTIMA				
AA2	20	TR: WORKZONE TRAFFIC CONTROL				
BCN	5	DES: RIGHT OF WAY PLANS PREP				
BGN	8	DES: CONTRACT PROVISION PREP				
BQD	8	TR: WORKZONE TRAFFIC SUPERVI				
BQU	16	SUR: CAICE SURVEY DATA PROCE				
BRK	40	DES: DESIGN ACADEMY				
BT5	8	CAE: CAICE EARTHWORK CLASSIF				
BVF	7	CAE: CAICE INTERSECTION DESI				
BZA	11	TR: POWER SUPPLY DESIGN FOR				
BZ8	8	DES: DESIGN DOCUMENTATION				
B11	16	TR: ILLUMINATION DESIGN FOR				
B71	16	DES: MANAGING PROJECT DELIVE				
CAK	24	UW: DES-MANAGING SCOPE, SCHE				
CAY	2	ENV: EROSION CONTROL DESIGN				
CA1	7	ENV: INTRO TO ENDANGERED SPE				
CBD	8	DES: INTERSECTION AND PEDEST				
CFU	8	DES: WSDOT INTERCHANGE DESIG				
BQT	24	CAE: CAICE ROADWAY DESIGN				
BWE	16	DES: ROADWAY GEOMETRIC DESIG				
B74	16	DES: ROADSIDE SAFETY				
CF4	6	DES: INTRODUCTION TO PROJECT				
ACB	8	CN: HOT MIX ASPHALT PLACEMEN				
ACF	6	CN: DRAINAGE INSPECTION				
ACM	24	CN: BRIDGE STRUCTURES INSPEC				
AI6	24	CAE: CADD OPERATOR TRAINING				
API	12	CN: ELECTRICAL-ILLUMINATION				
AX4	24	CAE: MICROSTATION - ENTRY LE				
A2C	24	UW: GEN-BASIC HIGHWAY CAPACI				
BC2	4	TR: SIGN LOCATION & INSTALLA				
BKS	7	ENV: WETLANDS: RECOGNITION, R				
BK7	6	DES: STORMSHED (INTERMEDIATE				
BML	24	UW: GEN-UNIFORM TRAFFIC CONT				
BPW	12	ENV: CERTIFICATION IN CN SIT				
BS3	24	UW: TR-FUNDAMENTALS OF TRAFF				
BS4	24	UW: TR-TRAFFIC ENGINEERING O				
BUY	6	DES: STORMSHED (BEGINNING)				
BQ2	16	UW: GEN-ROADWAY CULVERT HYDR				
ABT	7	CN: PCC FIELD TESTING PROCED				
LEADERSHIP & MANAGEMENT TRAINING PLAN						
AOX	7	MEETING MANAGEMENT	@ NotTaken	1		
AQC	8	CORRECTIVE ACTION	NotTaken	1		
B11	24	ENHANCED LEADERSHIP FOR WSDOT	NotTaken	1		
BIZ	24	TQM: TEAM LEADER TRAINING	NotTaken	8		
TECHNICAL/PROFESSIONAL TRAINING PLAN						
BBE	24	UW: DES-VALUE ENGINEERING FOR HIGHWAYS	@ NotTaken	1		
B71	16	DES: MANAGING PROJECT DELIVERY	NotTaken	1		
CAK	24	UW: DES-MANAGING SCOPE, SCHEDULE, AND BUDGET	NotTaken	1		
CA1	7	ENV: INTRO TO ENDANGERED SPECIES ACT & BIOLOG	NotTaken	1		
CFN	8	UW: GEN-CONSULTANT ADMINISTRATION	NotTaken	1		
AH9	14	UW: GEN-LEGAL LIABILITY FOR TRANSPORTATION PR	Taken	1	Feb 01	1
B89	24	UW: DES-ACCESS MANAGEMENT	NotTaken	2		
EMPLOYEE DEVELOPMENT TRAINING PLAN						
AAO	7	TIME MANAGEMENT	NotTaken	1		
ACV	14	ORAL PRESENTATION TECHNIQUES	NotTaken	1		
APN	14	STRESS MANAGEMENT	NotTaken	1		
APW	7	LISTENING SKILLS	NotTaken	1		
ARO	14	INTERPERSONAL COMMUNICATIONS	NotTaken	1		
ATC	7	CONFLICT MANAGEMENT	NotTaken	1		
AT2	14	WRITING MANAGERIAL LETTERS & MEMOS	NotTaken	1		
B9V	4	VIOLENCE THAT AFFECTS THE WORKPLACE	* Taken	1	Apr 02	1
BYW	4	ETHICAL STANDARDS REFRESHER	* Taken	1	Apr 00	1
BKB	4	ETHICAL STANDARDS	* Taken	1	Jan 95	1
SAFETY TRAINING PLAN						
APS	8	FIRST AID Refresher APS NEEDED BY Jan 98	* Taken	1	Jan 96	1
*** Non-Matrix courses ***						
LEADERSHIP & MANAGEMENT TRAINING PLAN						
BT6	8	EDPP TRAINING FOR WSDOT SUPERVISORS	Taken		Jun 00	1
AAA	32	ENTRY MANAGEMENT DEVELOPMENT (DOP)	* Taken		Sep 97	1
BNC	12	TQM: MANAGING PROCESS IMPROVEMENT	@ Taken		Jun 96	1
BGU	24	TQM: QUEST 2001, TEAM TECHNIQUES	@ Taken		Jun 96	1
BKK	8	TQM: AWARENESS FOR EMPLOYEES & MANAGERS	@ Taken		Feb 96	1
TECHNICAL/PROFESSIONAL TRAINING PLAN						
BT8	16	DES: ROADSIDE CONFERENCE	Regist		Jul 02	
BHM	24	GEN: RIVER MECHANICS FOR HIGHWAY DESIGN	Request			
CCH	6	CAE: CAE OVERVIEW FOR MANAGERS	Taken		Jul 02	1
B74	16	DES: ROADSIDE SAFETY	Taken		Nov 01	1
AGH	16	DES: HYDRAULICS, HIGHWAY DRAINAGE	Taken		Sep 01	1
CBP	24	UW: DES-URBAN STREET DESIGN	Taken		Aug 01	1
BQC	16	GEN: ARCVIEW GIS, INTRODUCTION TO (BEGINNING)	Taken		Mar 01	1
BZS	24	GEN: SYSTEMATIC DEVELOPMENT OF INFORMED CONSE	Taken		May 00	1
BV5	8	GEN: S D I C -BRUSH-UP	Taken		Jul 99	1
EMPLOYEE DEVELOPMENT TRAINING PLAN						
AAO	7	TIME MANAGEMENT				
APN	14	STRESS MANAGEMENT				
APW	7	LISTENING SKILLS				
ARO	14	INTERPERSONAL COMMUNICATIONS				

Required KSAs

- Bachelor's Degree in Civil Engineering, or related field; or equivalent combination of (4) years of education and professional experience in transportation or traffic engineering
- Skill in applying sound engineering judgment under stressful situations to develop recommendations and make decisions
- Skill in communicating in a clear, concise, and coherent manner with diverse groups including community groups and general public
- Ability to understand and apply the Manual on Uniform Traffic Control Devices (MUTCD)
- Ability to use software programs such as Word, Excel, Access, and Outlook

Desired KSAs

- FE (EIT) License, or within 3 months of employment develop a detailed personal plan and schedule to obtain license
- Knowledge of FHWA and AASHTO Guidelines, King County Road Standards, and WSDOT Design Manual
- Knowledge of traffic engineering principles, practices and methods
- Ability to learn and understand liability issues as they relate to traffic control and traffic accidents
- Ability to prepare and interpret technical reports

Senior Seminar (CE 491)

- Cover Letter / Resume
- Interview Questions
- Presentations / Public Speaking
- Writing Exercises
- Guest Speakers
 - Salary Negotiations
 - Ethics

Joe Vandal (208) 555-1212
1234 W. Main ST. APT #123, Moscow Idaho, 83843 jvandal@vandals.uidaho.edu

Civil Engineering Student

I am currently on the path of finishing my Bachelor's Degree with a focus in Transportation Engineering and am looking for a full time job that will further my knowledge and experience in Engineering.

Work Skills <ul style="list-style-type: none"> • Familiar with surveying equipment • Good with data and calculations • Have done lab tests • Well educated with Excel • Familiar with AutoCAD 	Personal Skills <ul style="list-style-type: none"> • Hard worker • Willing to work overtime • Take directions well, willing to learn • Self-Motivated • Trustworthy and honest • Works well with others
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Professional Accomplishments

- Flagger Certification for State of Montana

Work History

Parking Attendant	Starplex, Halmer, MT	August–September 2007, 2008
Dining Room Attendant	Halmer Elks Lodge, Halmer, MT	August 2007–June 2009
Operator, Laborer	Norse Montana, Halmer, MT	Summer 2010, 2011, 2012, 2013

Education

High School Diploma	Colony High School, Halmer, MT	May, 2009
B.S. Civil Engineering	University of Idaho, Moscow, ID	Graduate: December, 2013

Engineering Technical Electives Taken

<ul style="list-style-type: none"> • Traffic Signal Design • Hydraulic Design • Steel Design 	<ul style="list-style-type: none"> • Geotechnical Design • Engineering Hydrology
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References

- Karl Kopperud, Norse Montana: 807-745-3645
- Jonathan Rockey, Pastor St. John Lutheran Church, jrockey@stjohnlutheran.org 807-745-3338

Additional references are available upon request

ITE Transportation Education Council

- Focal point for identifying and addressing emerging and evolving needs of educational institutions
- Objectives
 - Initiate participation of educational institutions in ITE
 - Improve depth and breadth of services offered to institutions
 - Encourage representation of educational institutions in ITE
- Products
 - Syllabi for the first / introductory course in transportation engineering
 - Transportation Engineering Repository (Practical Problems)

ITE Transportation Education Council

- Employer-Standpoint Survey
 - What are employers looking for in prospective hires?
- Desired Traits
 - Willingness to learn
 - General analytical, writing, people skills
 - Ethics
 - Enthusiasm

ITE Transportation Education Council

- Expectations
 - New hires will have taken an introductory transportation engineering course
 - Employer will provide training (technical, PE exam)
 - Hiring process includes assessment of writing and public speaking ability
 - Employer will pay a higher salary to those with a graduate degree

Looking Ahead

- Role of technology
- Quality control / user feedback
- Re-shaping academic curriculum
- Influences of globalization



Sources of Information

- Conferences
- Presentations
- Webinars
- Classes / Courses
- Trade Journals
- Handbooks
- Videos
- Colleagues
- Online Forums
- Vendors
- Self-Study

Questions?



Kevin Chang, Ph.D., P.E.
kchang@uidaho.edu