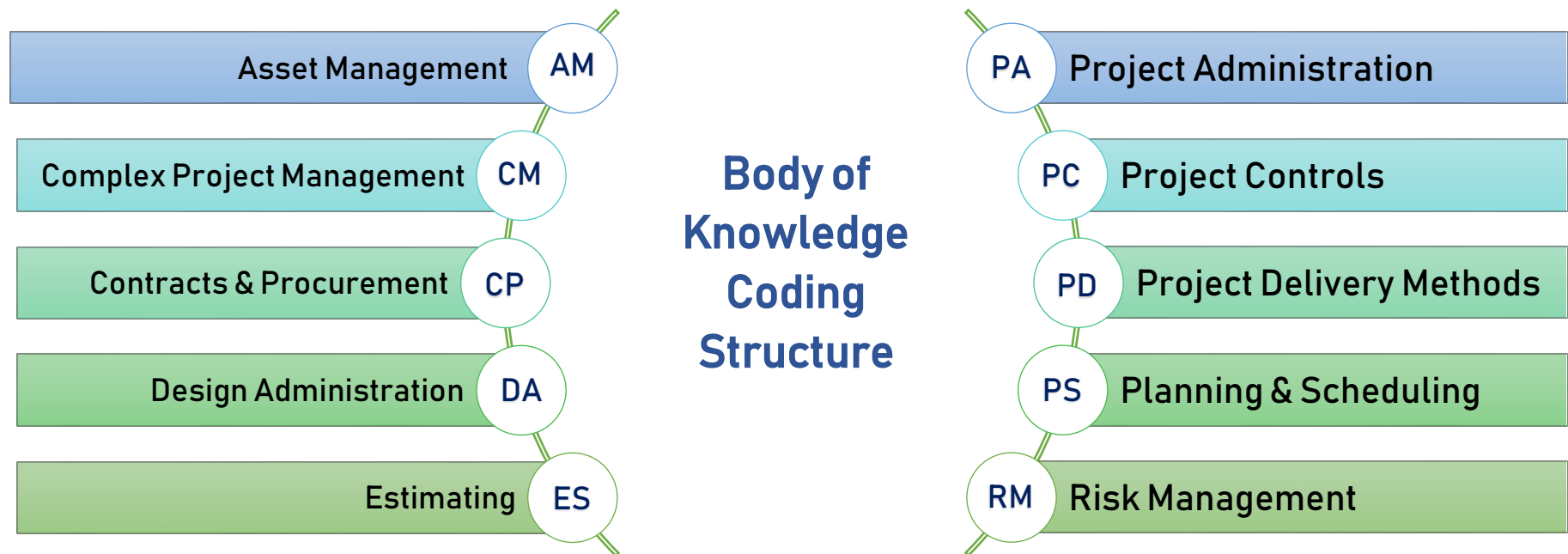


Professional Education Course Catalog

The below listed courses have all been successfully delivered in a traditional classroom environment on several occasions to working professionals whose backgrounds span the construction, design, technical, legal, and contracting professions. Many have also been delivered in different forms to executives of public agencies, consulting firms and construction companies. Gransberg and Associates coursework springs from the ten bodies of knowledge:



A Registered Service-Disabled Veteran-Owned Small Business

Continuing Professional Education: On-Line or In-Person

Construction Engineering and Project Management is our focus

Asset Management

AM



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
AM01	Principles of Asset Management	Asset management fundamentals per FHWA standards for DOT Total Asset Management Plans	x			4	x	x
AM02	Asset Management Decision Theory	Asset condition quantification, asset valuation, prioritization techniques		x		4		x
AM03	Social Return on Investment Analysis	Valuation of non-financial costs and benefits to the economy, environment and society		x		4		x

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Complex Project Management

CM



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
CM01	5-Dimensional PM	Introduction to complex project management principles and methods.	x			3	x	x
CM02	Complexity Mapping	Developing relative values for project complexity based on critical success factors		x		3	x	x
CM03	Project Action Plans	Managing complexity by actively addressing specific elements by resource allocation		x		3	x	x
CM04	Finance/Cost Gap Analysis	Methodologies for controlling the complex project's cashflow to match its technical requirements over time.			x	3		x

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Contracts & Procurement

CP

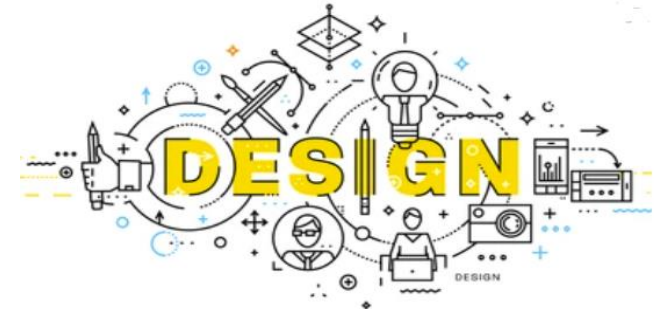


No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
CP01	Principles of Construction Contracts	Basic design/construction contract principles in the context of US contract law	x			1	x	x
CP02	Developing CMAR & DB RFQs	Identifying critical elements of qualifications and past performance; writing the RFQ to ensure those elements are presented in SOQs		x		2	x	x
CP03	Developing CMAR & DB RFPs	Focus on the technical schedule and cost elements of the RFP		x		2	x	x
CP04	Developing CMAR & DB Evaluation/Selection & Award Plans	Developing fair, equitable, and defensible evaluation and selection plans for CMR and DB projects.			x	3	x	x
CP05	Preconstruction Services	Detailed look at the various preconstruction services that can be offered by the contractor in CMAR & DB projects and how to incorporate them in the solicitation.				3		x

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Design Administration

DA



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
DA01	Design-Build Design Administration	Focus on controlling scope creep and establishing systems to design to budget; design work breakdown structure.		x		3	x	x
DA02	CM-at-Risk Design Administration	Focus on optimizing the project design to contractor means and methods to maximize constructability		x		3	x	x
DA02	Developing Performance Criteria & Specifications	A rigorous approach to diagramming essential elements of performance criteria and specs as the basis for writing them.		x		3	x	x

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Estimating

ES

No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
ES01	Quantity Take-off – Structures	Fundamentals of QTO for vertical projects	x			1	x	
ES02	Quantity Take-off – Civil/Utilities	Fundamentals of QTO for horizontal projects	x			1	x	
ES03	Pricing and Bidding – Lump Sum Jobs	Pricing and bidding strategies on lump sum contracts – direct, indirect costs and profit	x			1	x	
ES04	Pricing and Bidding – Unit Price Jobs	Pricing and bidding strategies on unit price contracts; building a UP; unbalancing;	x			1	x	
ES05	Principles of Cost Engineering	Project cost scoping and cost breakdown structure development; review of outside estimates from consultants, etc.	x			3	x	x
ES06	Top-Down Estimating	Data-driven approaches to estimating project costs at the earliest phase of development			x	4		x
ES07	Conceptual Estimating	Estimating construction costs during design		x		3	x	x
ES08	Parametric Estimating	Estimating quantities and costs based on data-driven cost estimating relationships		x		3		x
ES09	Developing and Negotiating Guaranteed Maximum Prices (GMP)	In depth coverage of GMP components and contingency pool development and management during preconstruction for CMR and Progressive DB delivery			x	4		x
ES10	Estimating and Negotiating design fees	Design WBS-based level of effort estimation; data-driven hours estimates; negotiation strategy development		x		4	x	x

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Project Administration

PA



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
PA01	Developing Proposals	Principles of proposal writing and presentations of proposals	x			1	x	
PA02	Principles of Contract Negotiation	Fundamentals principles of developing and executing a negotiation strategy	x			1	x	
PA03	Quality Management	Fundamentals of quality control and assurance from the project engineer's perspective	x			1	x	
PA04	Safety Management	Basic project safety planning; design for safety principles (NOT an OSHA course)	x			1	x	

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Project Controls

PC


No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
PC01	Earned Value Management	Classic cashflow and labor hour analyses to calculate project performance metrics during project execution	x			3	x	x

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Project Delivery Methods

PD



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
PD01	Project Delivery Methods	Intro to alternative project delivery	x			2	x	
PD02	CM-at-Risk/CMGC	Detailed discussion of CMAR/CMGC contracting		x		3	x	x
PD03	Design-Build	Detailed discussion of Design-Build Contracting		x		2	x	x

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Planning & Scheduling

PS



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
PS01	Principles of Critical Path Method (CPM) Scheduling	Fundamentals of CPM schedule development; sequence of work, float, etc.	x			1	x	
PS02	Principles of Linear Scheduling Method (LSM)	Fundamentals of LSM schedule development; sequence of work, production-based controls, etc.		x		3	x	x
PS03	Converting LSM to CPM	Method for displaying LSM output in CPM format to satisfy owner specs.			x	4		x
PS04	Forensic Schedule Analysis	Methods for comparing as-planned to as-built schedules to determine impact.		x		4		x
PS05	Stochastic Life Cycle Analyses	Applying simulations and analytics to the early feasibility studies to estimate expected costs and time requirements.		x		4	x	x

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Risk Management

RM



No.	Title	Content	Level			Current Delivery Media		
			B	A	E	OL	WB	F2F
RM01	Intro to Risk Management	Risk theory, risk register development	x			2	x	x
RM02	Risk Contingency Development	Use of stochastic simulations to develop rational line-item contingencies		x		3	x	x
RM03	Stochastic Risk Analysis	Data-driven analysis of expected cost and time using curve-fitting techniques and simulations.			x	3	x	x
RM04	Managing Utility Risk	Tools for managing utility risk during planning design and construction			x	4		x
RM05	Managing Geotechnical Risk	Tools for managing geotechnical risk during planning design and construction			x	4		x

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