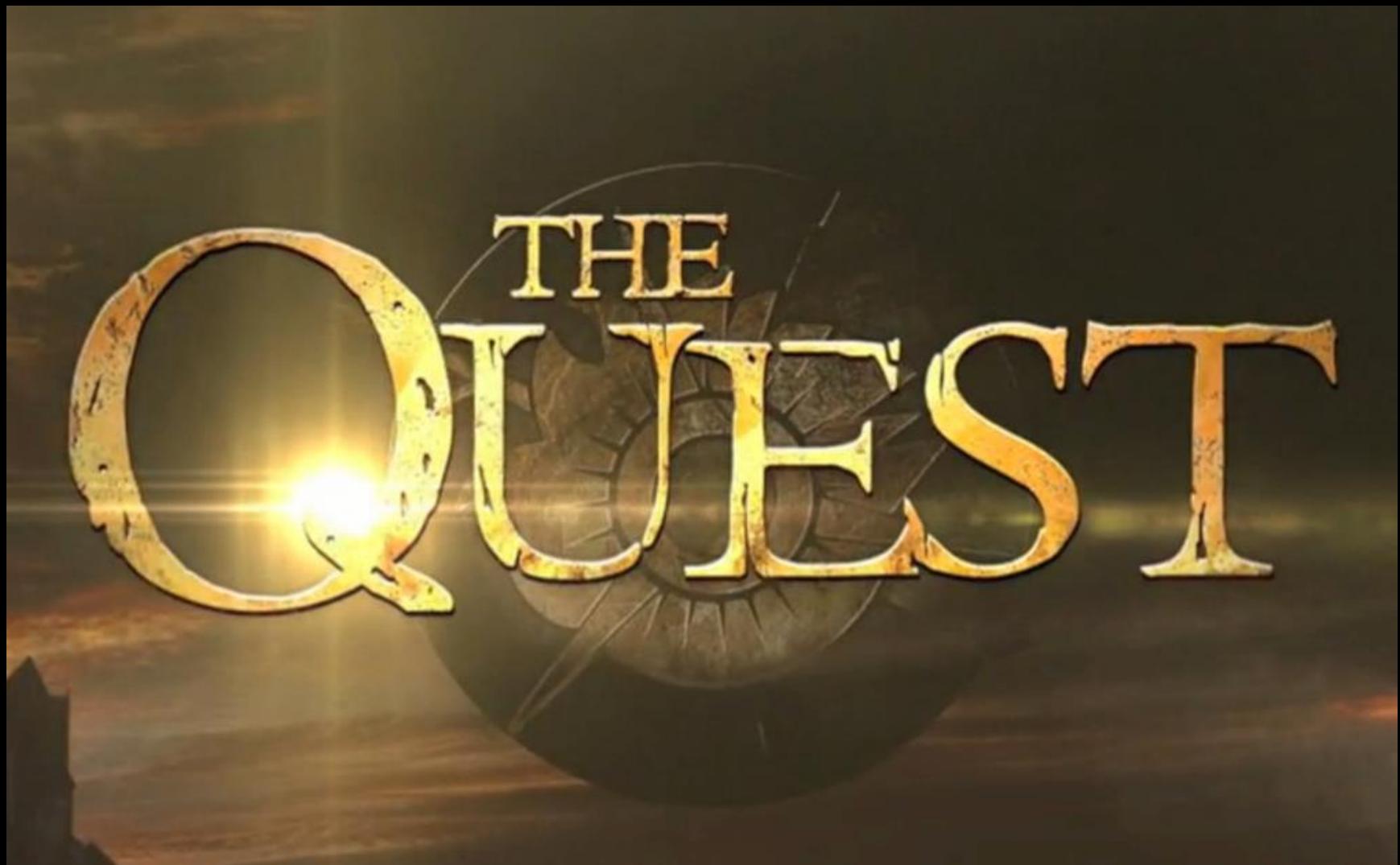


Mapping a Traditional GIS Course Onto a Quest-Based Learning Platform

Michael N. DeMers
NMSU Geography
New Mexico Geographic Alliance



WHY QUEST-BASED LEARNING



BADGES



LEVELING UP



LEADERBOARD

Leaderboard Search Results

Results: Minimum Level: 1, Maximum Level: 50, Quests Completed Leaderboard last updated Feb 09 (1 day 0 hours 32 minutes ago)

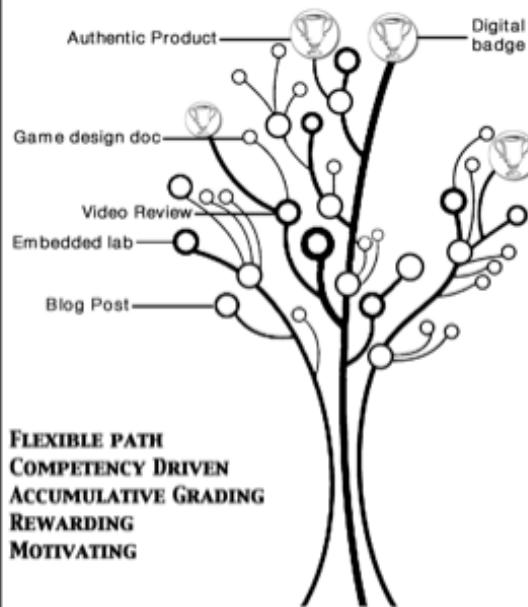
Rank	Name	Server	Race	Class	Level	Quests Completed
1	Charnicc	Permafrost			50	2,069
2	Labatyd	Runnweye			47	2,032
3	Claiomh	Permafrost			50	2,024
4	Feminine	Sebilis			50	2,022
5	Everxxxxxxxxxxxx	Sebilis			49	1,997
6	Nanthera	Everfrost			50	1,831
7	Nanthera	Innovation			50	1,827
8	Eligh	Everfrost			45	1,793
9	Maltheas	Lucan DLere			34	1,775
10	Igloo	Splitpaw			50	1,697

Grade book VS Quest-based

- Unit Exam
- Notebook Check
- Persuasive Paper
- Pop Quiz 2
- Assignment 2
- Oral Report
- Pop Quiz
- Assignment 1
- Reading Log 1

FIXED PATH
ACTIVITY DRIVEN
REDUCTIVE GRADING
PUNITIVE
UNMOTIVATING

FLEXIBLE PATH
COMPETENCY DRIVEN
ACCUMULATIVE GRADING
REWARDING
MOTIVATING





Group

0 | 0

Rank

0 | 0

GIS Quester



Available 1

In Progress 0

Completed 0



Name

XP

Avg Time

Rating

Category

Due Date



QUESTS

0



REWARDS

0



GROUP



ANNOUNCEMENTS

0

GROUP MANAGER

QUEST BUILDER

REWARD BUILDER

QUEST APPROVER



Intersecting Activity Spaces & Intersection Overlay

200

-- mins

No Rating

Conceptual

No end date

A quest in support of Chapter 4, learning objective 7. Specifically, this supports explanation of intersecting activity spaces and intersection overlay.

Tags: Activity Spaces | Overlay | Cartographic Overlay | Set Theoretic Overlay |

Available as of: October 15, 2014

[View Details](#) [Edit Quest](#) [Delete Quest](#) [View Public Comments](#)



Group		0 0
Rank		0 0

GIS Quester



QUESTS

0

REWARDS

0

GROUP

ANNOUNCEMENTS

0

GROUP MANAGER

QUEST BUILDER

REWARD BUILDER

QUEST APPROVER

Create a Quest

Visit the Quest Armory

*required fields

Quest Name *

Intersecting Activity Spaces & Intersection Overlay

Available Date *

10/15/2014

Expiration Date (leave blank for no expiration)

Short Description *

A quest in support of Chapter 4, learning objective 7. Specifically, this supports explanation of intersecting activity spaces and intersection overlay.

Quest Instructions / Details *



Through textbook readings, interactive powerpoint lecture (via VoiceThread), movies, webquests and hands-on overlay operations you will be given the background material necessary to describe, explain, and demonstrate how **intersecting activity spaces** and other intersecting properties can be modeled using **Intersection Overlay**. You will also be given an opportunity to create your own scenario for when **Intersection Overlay** might be applied and what the resulting intersection shows.



Group	0 0
Rank	0 0

GIS Quester

QUESTS 0

REWARDS 0

GROUP
ANNOUNCEMENTS 0

GROUP MANAGER
QUEST BUILDER
REWARD BUILDER
QUEST APPROVER
Quest Details

Name	XP	Avg Time	Rating	Category	Due Date
Intersecting Activity Spaces & Intersection Overlay	200	-- mins	No Rating	Conceptual	No end date

Description
[Report](#)
[Edit Quest](#)
[Delete Quest](#)

Through textbook readings, interactive powerpoint lecture (via VoiceThread), movies, webquests and hands-on overlay operations you will be given the background material necessary for you to be able to describe, explain, and demonstrate how **intersecting activity spaces** and other intersecting properties can be modeled using **Intersection Overlay**. You will also be given an opportunity to create your own scenario for when **Intersection Overlay** might be applied and what the resulting intersection shows. To earn bonus experience points you will be given an opportunity to provide output from your laboratory with a brief explanation of the intersection overlay process.

Submission Details

Here's what to submit

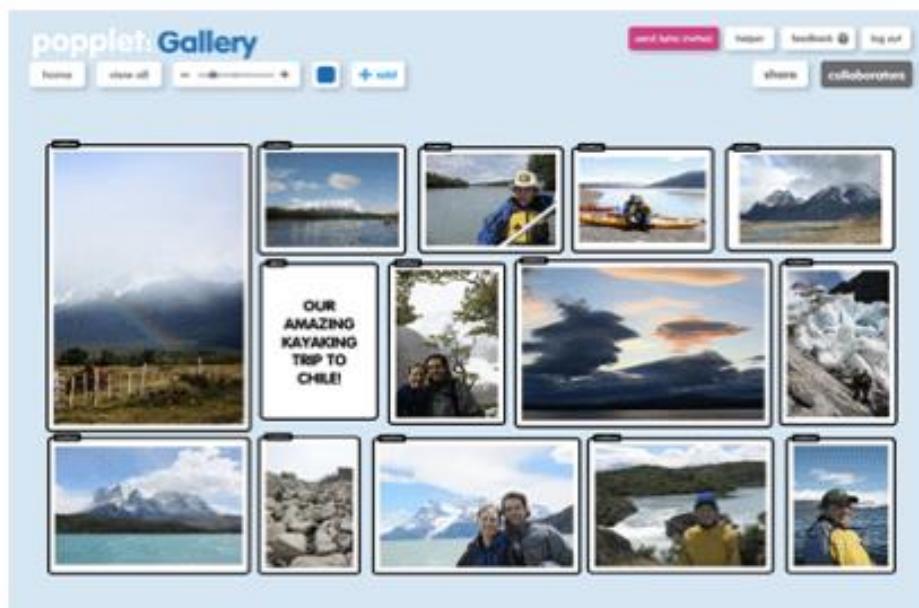
Part 1: Use your VoiceThread account to produce a narrated set of PowerPoint slides that provide the following.

1. Illustrate, annotate, and narrate a slide that describes what shared activity space is.
2. Illustrate, annotate, and narrate a slide that describes non-activity space related spatially correlated distribution phenomena.
3. Illustrate, annotate, and narrate a slide that describes how Intersection Overlay works in vector-based GIS.
4. Illustrate, annotate, and narrate a slide that describes how Intersection Overlay works in raster-based GIS.

Super
Simple.

What is Popplet?

Popplet is a place for your ideas.



[Create Galleries](#)

Super
Smart.

Super
Fun.

QUESTS

3DGameLab -Mr. Suter's Level 6- Secret Planning Document.xlsx

Search in Sheet

Home Layout Tables Charts SmartArt Formulas Data Review

Font Alignment Number Format

Conditional Formatting

Cells Themes

A9

"Level 6" Official Secret Planning Document (6th grade Comp Tech)

	Total available QUEST XP	406	1	visible quests at startup								
	Available Reward XP	165	10	Solo quests								
	Total POSSIBLE XP	571	1	Solo/Coop quests								
	Winning condition XP	2000	0	Coop only quests								
	Estimated time to complete total quests in group	381.0 minutes	0	Event Related Quests								
1	Done	Quest Name	approval	Time	XP	Prereq	Type	Details	Category	Type	Standards	Tags
2		Intro										
3	x	Welcome to Level 6	auto	5	25	None	Solo	respond to prompt about fav web tools/sites	Player*	Watch/Create		
4	x	Be a Blogger	x	10	25	Welcome to Level 6	Solo/Coop	write a blog post, submit a working link	Player*	Watch/Create		
5	x	The easiest one point quest ever!	x	1	1	Welcome to Level 6		Experience getting a quest returned, then re-submit				
6		Pixel										
7	x	Pixel-O-Matic	x	20	20	Be a Blogger	Solo	web image edit, posted link	Player*	Watch/Create		
8	x	Pixel Express	x	15	25	Be a Blogger	Solo	web image edit, posted link	Player*	Watch/Create		
9	x	Pixel Editor	x	20	30	Pixel-O-Matic	Solo	web image edit, posted link	Player*	Watch/Create		
10	x	Pixel Slightly Advanced 1	auto	30	30	Pixel Editor	Solo	Resize lg pics, text with layer styles, clone stamp	Player*	Watch/Create		
11	x	Pixel Slightly Advanced 2	x	30	30	Pixel Advanced 1	Solo	text w/ stroke, gradient, tilt shift	Player*	Watch/Create		
12		Bubble.us										
13	x	Bubble.us - About You										
14	x	Bubble.us - Book Review										
15		Digital Photography										
16	x	Shoot, Transfer, Edit, Post	x	20	35			getting the pictures from camera to PC to Blog				
17	x	My Reflection	x	15	25			Find a reflective surface to take a self mug shot				
18	x	Stacked	x	35	30			a video/photo technique that makes items appear to be stacked on top of one another				
19	x	Rule of Thirds	x	30	20			framing a good shot/cropping an existing shot				
20		iPad										
21	x	iPads...Serious Fun		15	5		Solo	Review rules, personal statement				
22		iPad Protocol		10	10			Sign Out, Clean Screen, Connect Power, Sign In				
23	x	iPad: Dropbox Photo Transfer	x	25	15			create dropbox acc't, transfer pics, logout.				
24		iPad Tips and Tricks 1		20	15		Solo	wifi connection/switching, sleep/wake vs shutdown, ending apps				
25		iPad Tips and Tricks 2		20	15			screen shot, organizing apps in folders,				
26		iPad App Evaluation	x	15	15							
27		iPad Dream App	x	15	15							
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46												
47												
		Quests	Rewards List	Ranks	+							
	Normal View	Ready						Sum=0				

REWARDS LIST

3DGameLab -Fundamentals of GIS Secret Planning Document.xlsx

Search in Sheet

Home Layout Tables Charts SmartArt Formulas Data Review

Font Alignment Number Format Cells Themes

Font: Arial, Size: 10, Bold, Italic, Underline, Text Color: Red, Text Style: A, Alignment: Wrap Text, Number: General, Format: Conditional Formatting, Cells: Insert, Themes: Themes

I36

	A	B	C	D	E
1	Name	Type	XP	Other Rewards	Conditions
AWARDS (manual)					
5	So Speedy!	Award	10		
6	Above and Beyond You Went!	Award	15		
7	Bug Squasher	Award	20		Be the FIRST to find and submit the repeatable Bug Eater quest.
8	Super User	Award			"You must have done something AMAZING. These don't get awarded too often." (student technical skill usually)
9	Tier 1 Support	Award	15		You made extra effort to help those in need. Thank you!
10	Tier 2 Support	Award	15		You help people...A LOT. Not just for a few days, but nearly daily for an extended period of time.
11	Milestone	Award	10		Congratulations! You are lucky enough to have completed a quest correctly that was either the 500th or 1000th Quest!
ACHIEVEMENT (automatic)					
14	GIS Novice (level 0)	Achievement	0		
15	Map Reader	Achievement	0		Entry requires completing all three course introduction quests.
16	GIS technician	Achievement	0		Entry requires completion of at least 6 level I quests (1200 experience points)
17	GIS Journeyman	Achievement	0		Entry requires completion of 4 level II quests or 3 level II quests and 2 level I quests not yet completed
18	GIS Analyst I	Achievement	0		Entry requires completion of 3 level III quests
19	GIS Analyst II (modeler)	Achievement	0		Entry requires completion of 6 level III quests
20	GIS Supervisor	Achievement	0		Entry requires completion of all 6 level IV quests
BADGE (automatic)					
23	VoiceThread Expert	Badge	20		Consistent high quality VoiceThreads
24	ArcGIS Officianado	Badge	10		ArcGIS exercises used with great effect and explanations of output of high quality
25	Sweet Elite	Badge	50		Complete EVERY QUEST
26					
27					
28					
29					
30					
31					

RANKS

3DGameLab -Fundamentals of GIS Secret Planning Document.xlsx

Home Layout Tables Charts SmartArt Formulas Cells

Font: Arial 10pt

Alignment: General

Number: %

Format: Conditional Formatting Styles Actions

E21

	A	B	C
1	Name	XP	Unlocks
2	GIS Novice		All content level 0 quests (course introduction)
3	Map Reader		Level 1 Quests Introduction to the topic)
4	GIS Technician		Level 2 Quests (Computer Aspects)
5	GIS Journeyman		Level 3 Quests (Editing, Manipulation, and Analysis)
6	GIS Analyst I		
7	GIS Analyst II (modeler)		Level 4 Quests (GIS project planning and design)
8	GIS Supervisor		ELITE quests (Quest designer, Geodesigner, etc.)
9			
10			
11			
12			

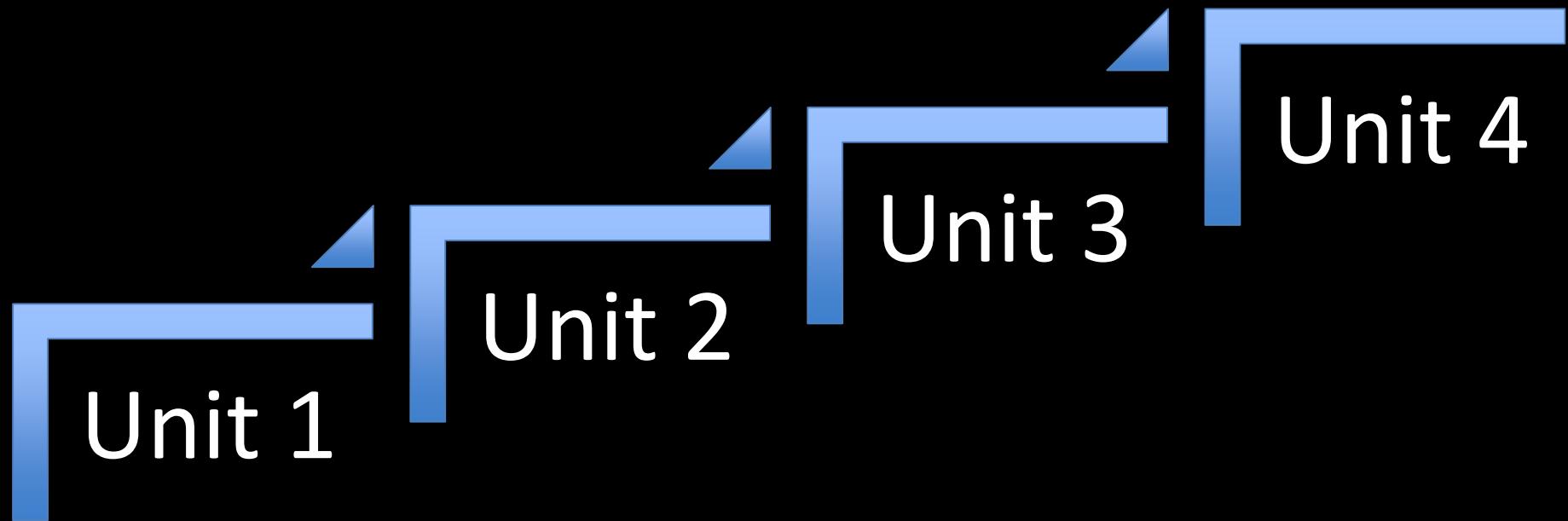
Quests Rewards List Ranks +

Normal View Ready

Textbook-Based Course Design

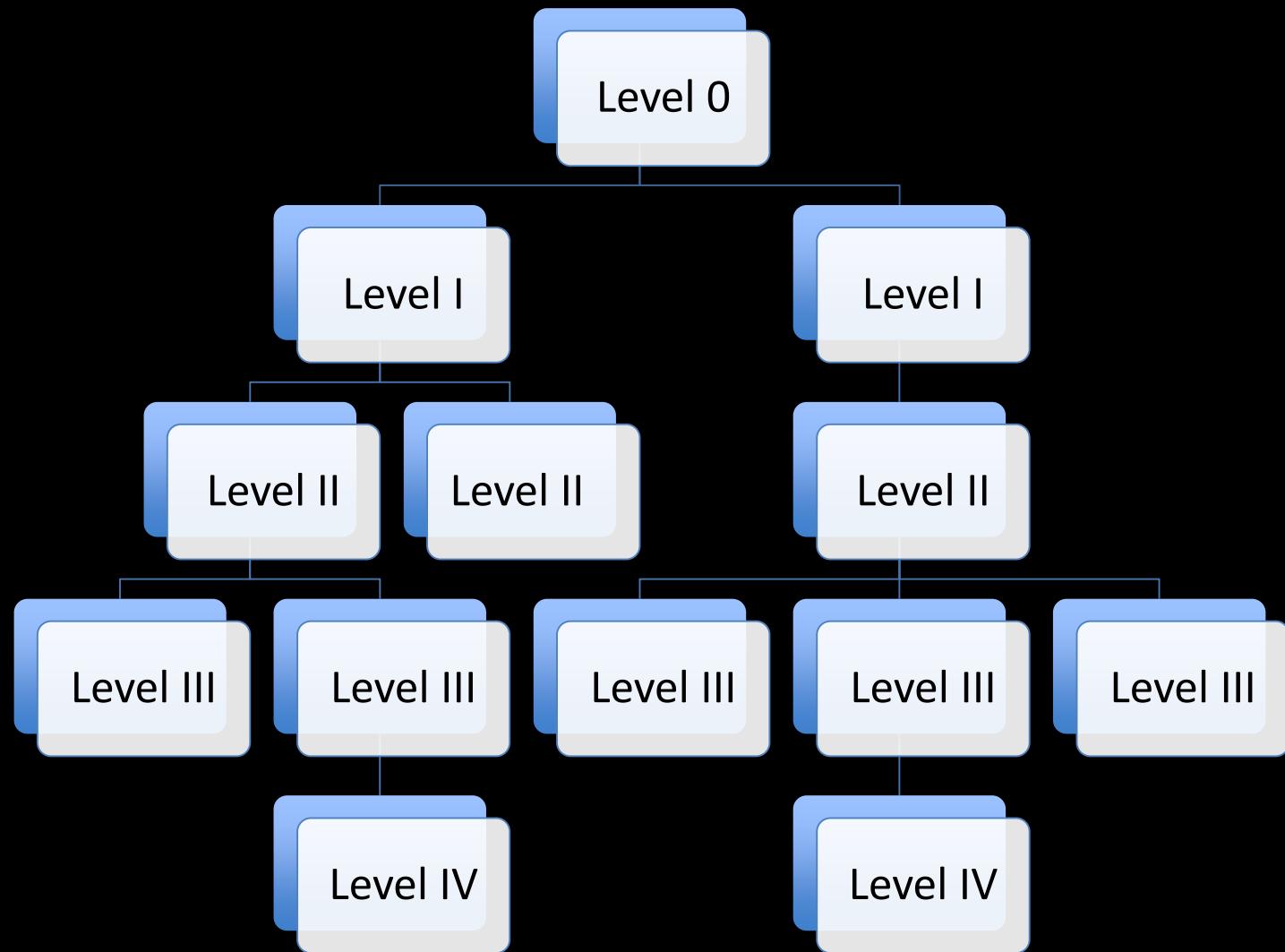
- Unit 1: Introduction
 - Intro to digital geography
- Unit 2: Digital geographic data and maps
 - Basic Geographic Concepts
 - Map Basics
 - GIS: Computer Structure Basics
 - GIS Data Models
- Unit 3: Input, storage and editing
 - GIS Input
 - Data storage and editing
- Unit 4: Spatial Analysis
 - Query and description
 - Measurement
 - Classification
 - Statistical Surfaces
 - Terrain Analysis
 - Spatial Arrangement
 - Map Overlay
 - Cartographic Modeling
- Unit 5: GIS output and design
 - Cartography and Visualization
 - GIS Design

Linear Flow (traditional course)

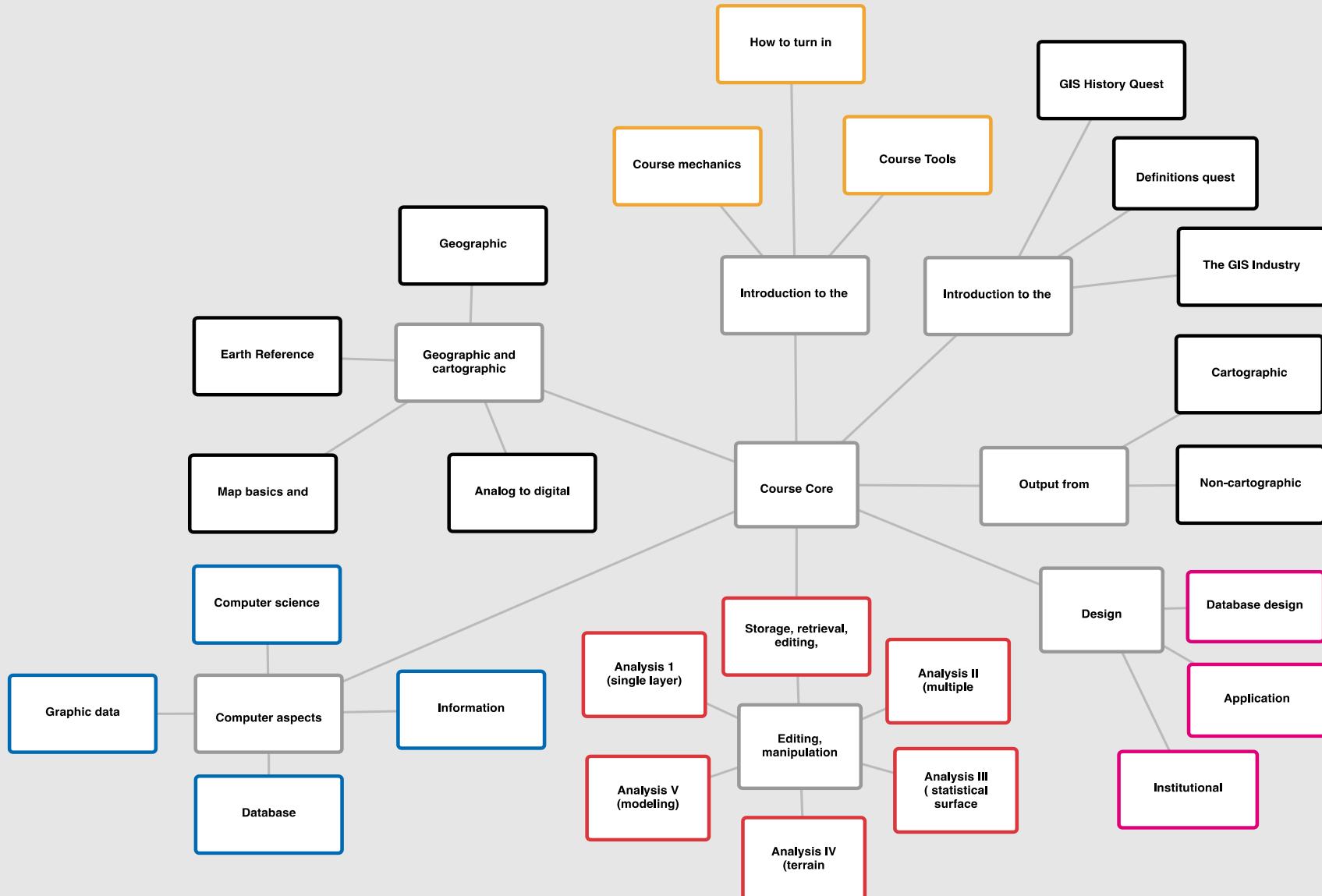


- Level 0: Course introduction
 - How to turn in assignments quest
- Level 1 Introduction to the topic
 - GIS History quest
 - Basic Geographic Definitions quest
 - The GIS Industry quest
- Level 1 Geographic and cartographic background
 - Geographic fundamentals quest
 - Earth reference system quest
 - Map basics and abstraction quest
 - Analog to digital conversion quest
- Level 1 Output from analysis quest
 - Cartographic output quest
 - Non-cartographic output quest
- Level II: Computer aspects
 - Computer science fundamentals quest
 - Graphic data representation quest
 - Information system quest
 - Database management quest
- Level III: Editing, manipulation and analysis
 - Storage, retrieval, editing, compilation quest
 - Analysis I (single layer)quest
 - Analysis II (multiple layer) quest
 - Analysis III (statistical surface) analysis quest
 - Analysis IV (terrain analysis) quest
 - Analysis V (modeling) quest
- Level IV: Design
 - Database design quest
 - Application design quest
 - Institutional design quest

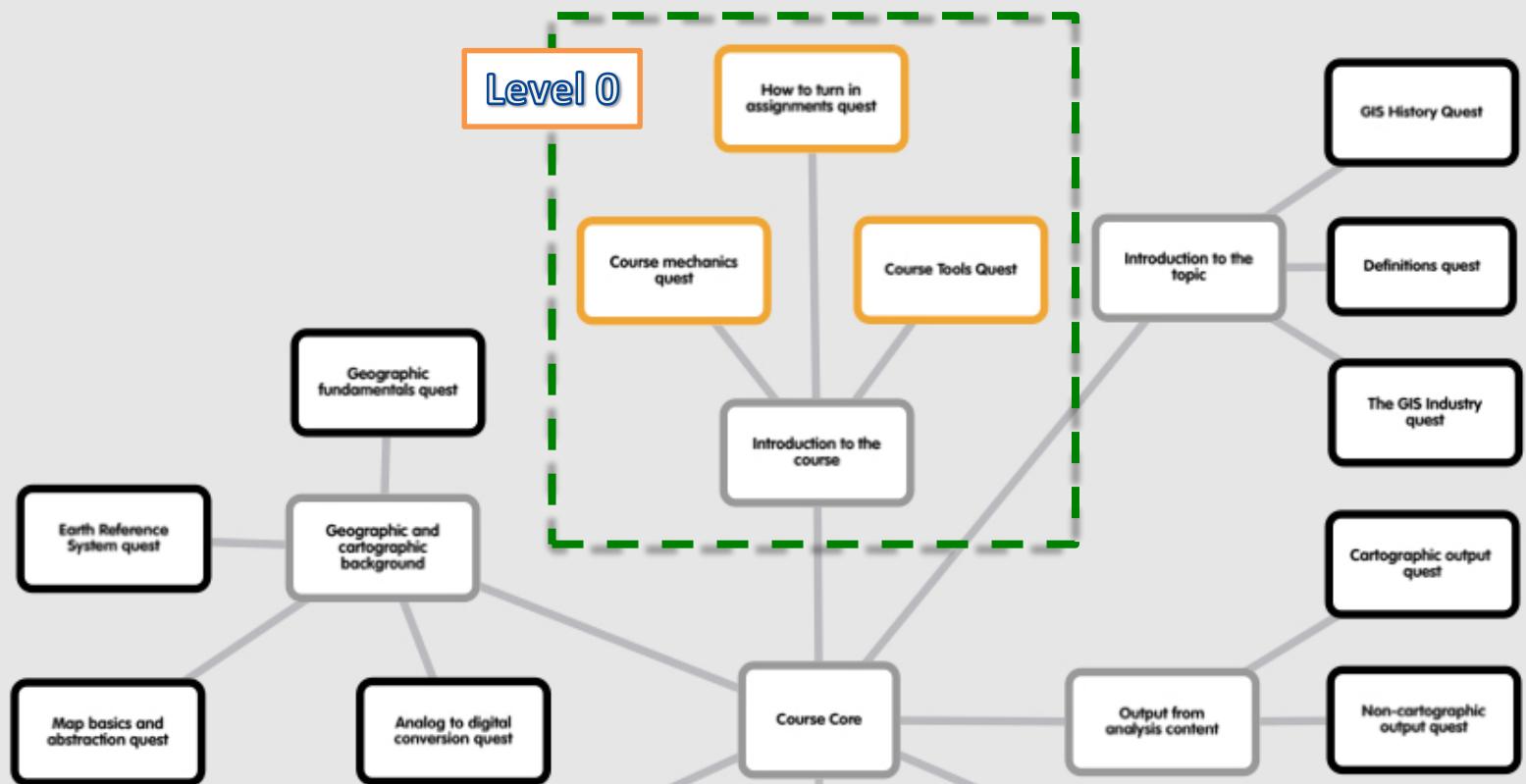
Leveled (quest-based) with choice



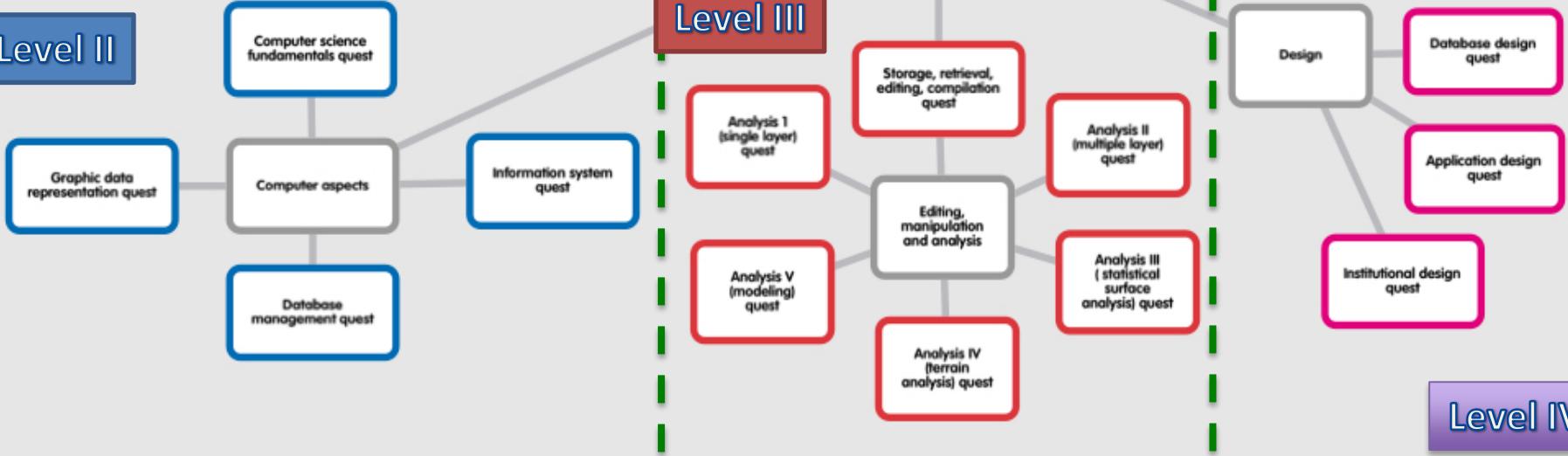
Fundamentals of Geographic Information Systems



Level I



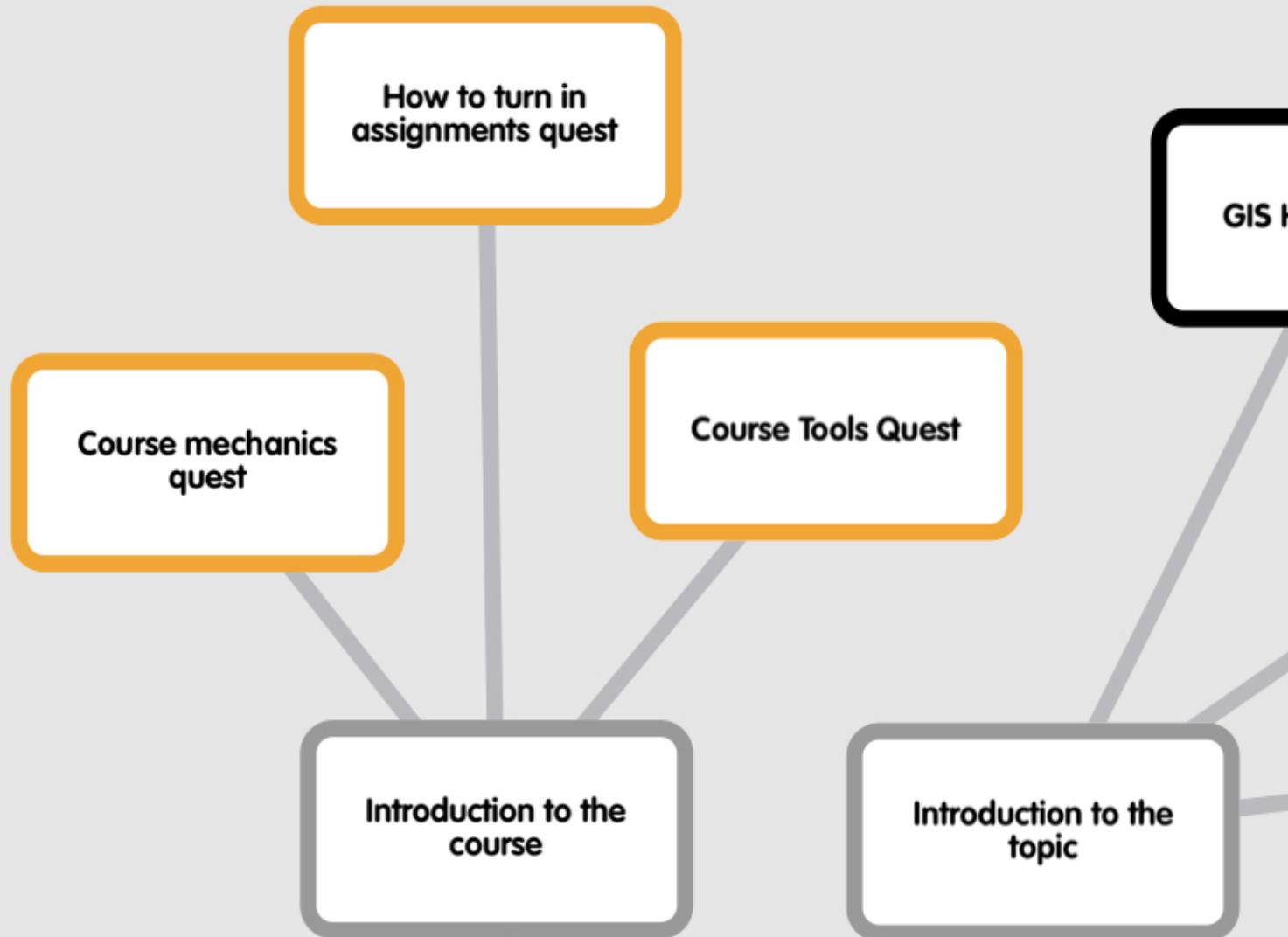
Level II



Level IV

graphic
mentals quest

graphic and



How to turn in
assignments quest

GIS History Quest

Course Tools Quest

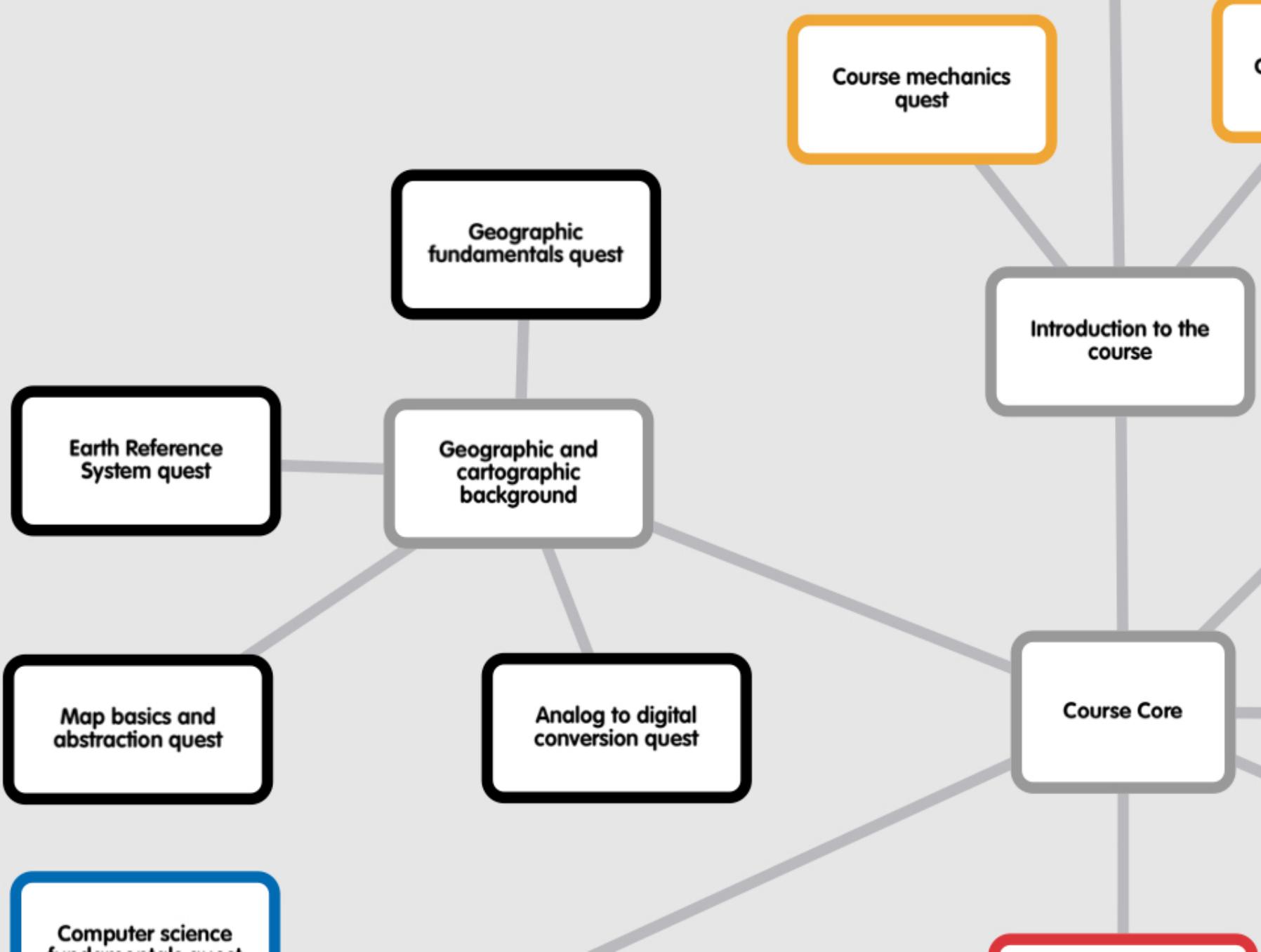
Definitions quest

Introduction to the
course

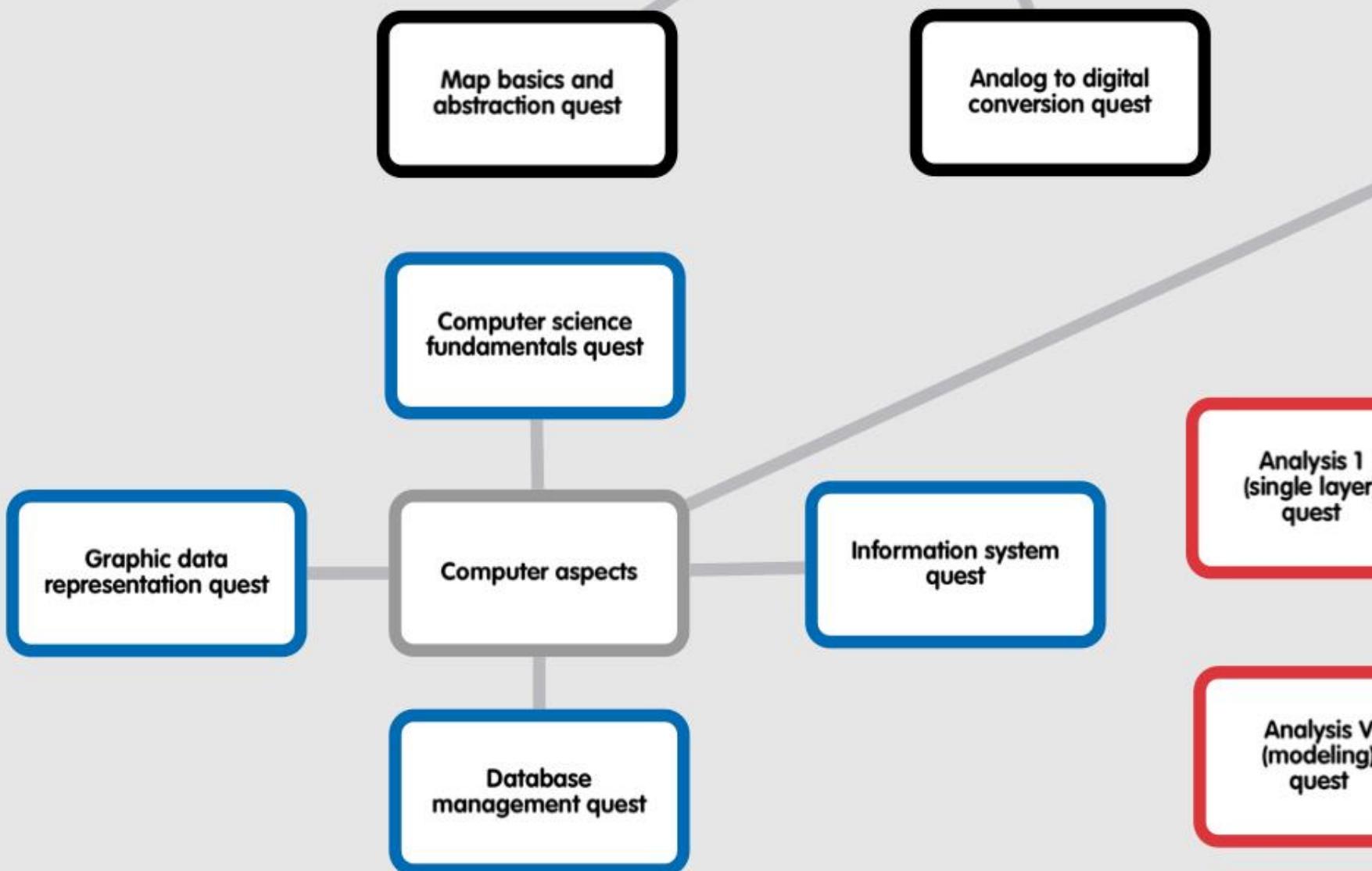
Introduction to the
topic

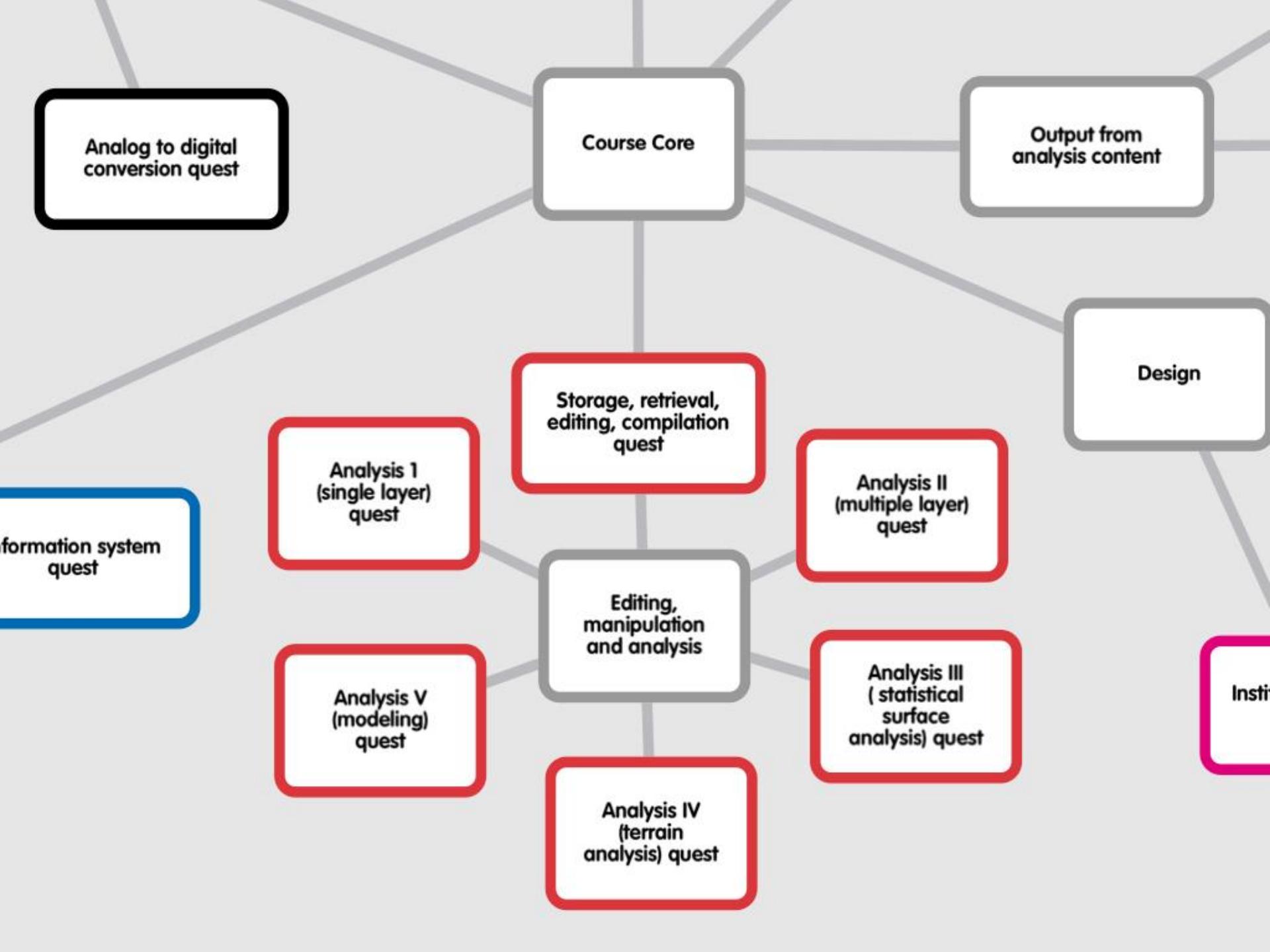
The GIS Industry
quest

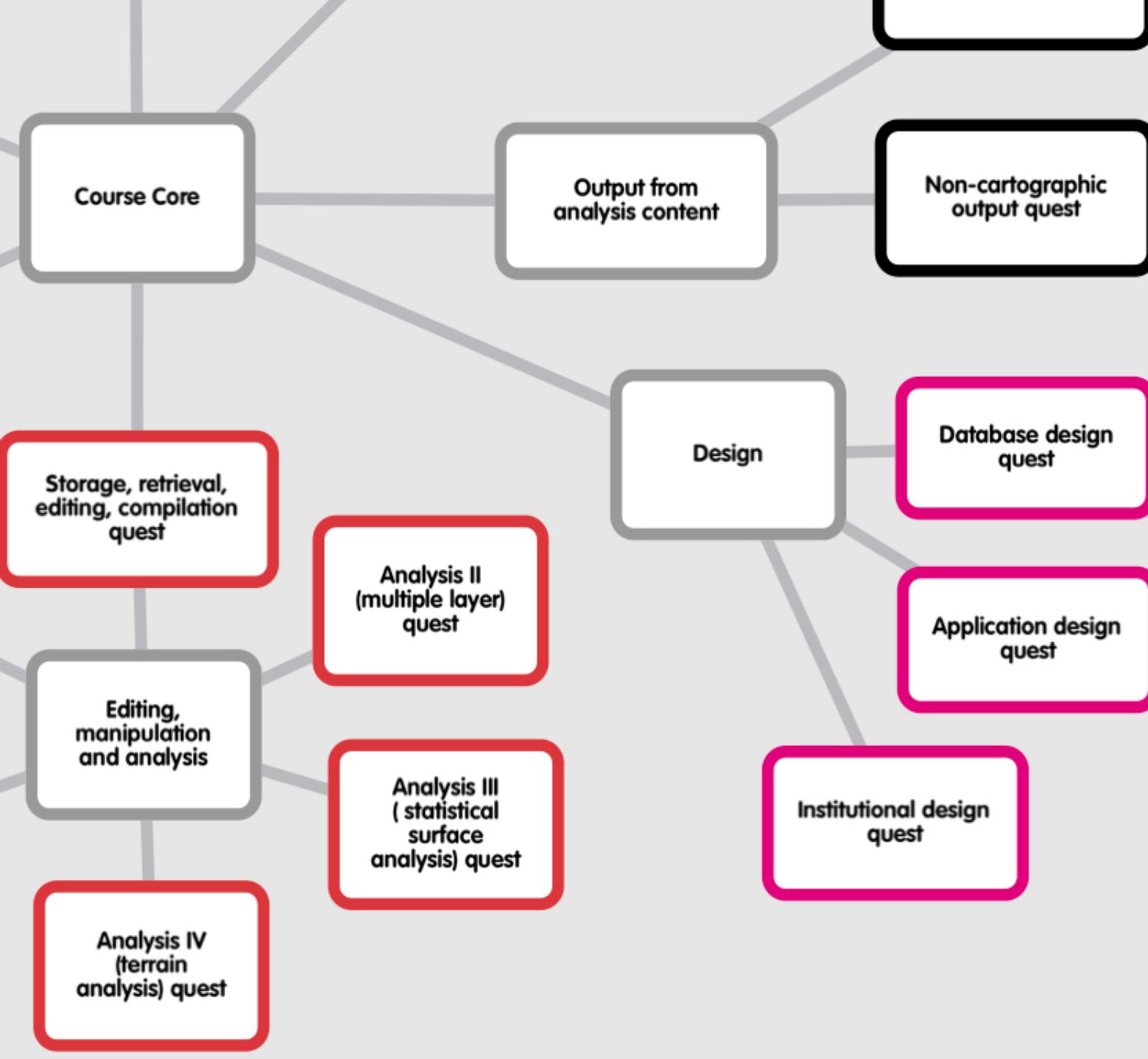
Cartographic output
quest











Traditional Grading

Quest-Based Grading



100% (starting point) - A

0% - F

Life-long Learning

5000 points (for an A)

0 points

expectations.

