

ESCI 309 RIPARIAN CONSERVATION IN THE GRAND CANYON

John McLaughlin

4 Credits

Course Schedule

Date	Topics	Readings, Videos	Assignments
Sept 26	Introductions: people, place, norms, logistics Grand Canyon introduction Ropes and knots, part 1	Course norms LaGrave 2019 Drake 2019	Personal goals
Oct 1	Personal goal sharing GC Geological history and formation Grand Canyon stratigraphy, part 1 <u>Colorado River geomorphology</u> After class: • expedition menu review • expedition financing	Collier et al. 1996 Stevens 2019, pp.67-86 Gold 2019a NPS 2023 Strazza 2024	Tolerance self-assess. Rock layer summary
Oct 3	Grand Canyon Indigenous history Indigenous GC-relationships and interests GC stratigraphy, part 2: demonstration After class: expedition menu decisions	Austin & Drye 2011 Christensen 2024 Cooley 2021 GCTrust 2020 Blackmer-Raynolds 2017 McBride 2019 Nania 2019	Tribal profile
Oct 8	CO River water development and management Dam history and status, environmental politics Water negotiations and futures Climate change impacts After class: • personal gear review • expedition itinerary review, part 1	Cook et al. 2015 Milly&Dunne 2020 Kolbert 2021 Udall&Overpeck 2021 Necefer 2024 Gold 2019b Gordon 2019 Lander 2019 Novak 2019 Perry&Kraushaar2022	
Oct 10	Tribal profile presentations <u>Grand Canyon development proposals, projects</u> After class: personal gear check-in	[Devel. Prop videos & reading]	GC issues report
Oct 15	Sediment dynamics and dam impacts Riparian zones: pre/post dam comparison Glen Canyon Dam Adaptive Mgmt. Program Plant restoration & Tamarisk removal Ropes and knots, part 2	Hamill&Melis 2012 Konrad et al. 2011 Schmidt et al. 1998 Melis et al. 2011 Stevens et al. 1997 Schmidt 2019 Squillace 2019	
Oct 17	GC river running history, management, status GC recreation management: permit allocations, seasonal regulations, LNT gear & practices, <u>boat spacing, noise and overflight management</u> After class: expedition work group organization	[GC videos] Washko et al. 2022 Stevens 2019	
Oct 22	LNT principles and practices Camp LNT gear and protocol River kitchen structure and operation: demo.	GCNP action guide GCNP 2021 (video) Canyon REO videos	

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Oct 24	Expedition behavior, leadership roles Sphere of influence assessment Research project interests and opportunities Research team organization Research project development and proposals	Drake 2019 Ostis 2015, pp.241-246	Research literature review
Oct 29	Expedition planning Ropes and knots, part 2 <u>Food organization, labeling, packing</u> After class: GC itinerary planning, part 2		
Oct 31	River navigation and risk management Communication: river signals, visual & whistle Boat sequencing and spacing River running: CLAP; Scouting: WORMS River reading and hazards Navigation tools, skills, strategies Whitewater swimming and self-rescue Flipped and pinned boat procedures	AW Safety Code Whitewater Videos Hunt 2021 Collier 2020a,b,c AW safety videos Collier 2021, 2022a Collier 2022b	
Nov 5	Grand Canyon river research opportunities Risk management approaches; safety I and II RASM and application to river expeditions COVID safety protocol Environmental Briefing Incident protocol and response Emergency communication	Curtis 2014	Research proposal
Nov 7	Research proposal check-in NPS orientation video review <u>Boat rigging principles and guidelines</u> After class: • Boat rigging plans and boat maps • Personal gear packing demonstration	GCNP 2021 (video) Canyon REO videos	
Nov 12	California Condor reintroduction Native fish conservation and reintroduction <u>Additional topics TBD – research proj.interests</u> After class: expedition travel plan	Walters et al. 2010	
Nov 14	Research proposal check-in River skills self-assessment Post-2026 Operations DEIS status & review		Rev.research proposal River skills checklist
Nov 19	Expedition logistics <u>River skills discussion</u> After class: • GC Travel plan • Rigging day plan • Launch day plan		Research sampling protocol Research data forms
Nov 21	Research group and gear organization		
Dec 3	Post-2026 Operations DEIS check-in <hr/> After class: Final expedition preparations		

Weekend Training Schedule [dates under revision]

Date	Topic	Readings
Sat. Oct 19	River safety training (8 hours)	AW videos
Date TBD	River reading and navigation training (10 hours)	Hunt 2021
Sat Nov 23	Research or expedition preparation (8 hours)	

Grand Canyon River Expedition

After the course, there will be a trip down the Colorado River through the entire 280 mile length of the Grand Canyon. The trip, originally planned as an AS Outdoor Center program, will be entirely independent of WWU. The trip will occur during winter break, returning before winter 2025 classes begin. Some trip preparation discussions are listed in the schedule above, to occur after class meetings. Those discussions will not be part of the course, and are listed here for your convenience only. For details, please see the online folder containing trip information resources.