

The logo features a large, stylized gear with a light blue center. The letters 'PMBI' are written in a large, bold, grey font across the gear. The text 'PMBI LEVEL 2 COURSE GUIDE' is centered over the gear in a bold, black font.

PMBI LEVEL 2 COURSE GUIDE

This Course Guide is designed to complement the PMBI Reference Guide by highlighting the key components of the Level 2 Course, and summarizing them in one place. Includes Course Agenda, Workshops, Course Information and Level 2 Worksheet



PROFESSIONAL MOUNTAIN BIKE INSTRUCTOR ASSOCIATION

COURSE GUIDE

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PASSION FOR TEACHING, PASSION FOR RIDING

LEVEL 2 COURSE AGENDA

DAY ONE

9.00 - 9.15pm:	Registration, Welcome & Introduction
9.15 - 10.00am:	Level 1 Worksheet Review
9.00 - 12.00pm:	Advanced Riding Skills & Teaching presentation
12.00 - 1.00pm:	Lunch
1.00 - 1.30pm:	Guiding (SAFETY) Protocols Review
1.30 - 4.00pm:	Advanced Riding Skills & Teaching presentation continued
4.00 - 4.30pm:	Daily Review & Feedback

DAY TWO

9.15 - 10.00pm:	Goal Setting & Skill Development Workshop
10.00 - 12.00pm:	Skill-Based Practice Teach & Feedback
12.00 - 1.00pm:	Lunch
1.00 - 4.00pm:	"Jumps & Drops" OR "Technical Maneuver" Skills Presentation
4.00 - 4.30pm:	Daily Review & Feedback

DAY THREE

9.00 - 10.00am:	Mountain Bike Set-up & Performance Factors Workshop
10.00 - 12.00pm:	"Jumps & Drops" OR "Technical Maneuver" Teaching Presentation
12.00 - 1.00pm:	Lunch
1.00 - 4.00pm:	"Jumps & Drops" OR "Technical Maneuver" Teaching Practice & Feedback
4.00 - 4.30pm:	Daily Review & Feedback

DAY FOUR

9.00 - 10.00am:	PMBI Level 2 Worksheet & Lesson Plan Review
10.00 - 12.00pm:	Teach Evaluation: SKILL-BASED
12.00 - 1.00pm:	Lunch
1.00 - 3.30pm:	Teach Evaluation: MANEUVER-BASED
3.30 - 4.30pm:	Course Review, Feedback, Wrap-up & Results

NOTE: Candidate Assessments consist of two components: Riding & Teaching, which are assessed throughout the 4 day course. In order to successfully pass the Riding Component, a candidate must be comfortable riding on "black" terrain and demonstrating the Level 2 Maneuvers. To pass the Teaching Component, a candidate must teach at least two of their four practice lessons according to the PMBI Level 2 Certification Syllabus and Course Standards; they should be comfortable riding on advanced terrain, and safely and effectively teaching advanced riders

RISK MANAGEMENT WORKSHOP

Managing risks to maximize safety & success

It is important to first realize some basic points when it comes to your role as a mountain bike instructor, and being legally responsible for other peoples' safety.

- * You cannot eliminate risks, but you can manage them to reduce the chances of an incident.
- * There is a difference between the responsibilities an instructor has, compared to those of the company who employs the instructor. Similarly, if you are self-employed, these are different again. Educate yourself and be aware of what position you are in and what *your specific* role and responsibilities are to you and your client(s).
- * DUTY OF CARE: a legal obligation imposed on an individual requiring that he or she adhere to a reasonable standard of care while performing any acts that could potentially harm others.

Risk Management is about knowing the risks involved with an activity and doing your best to minimize and manage these risks for all parties involved: namely the staff, clients, public and business. Good risk management isn't about eliminating these risks, but knowing and understanding them clearly, and then coming up with a procedure, policy or plan of action, so as to minimize the risks while maximizing safety and success. Four key elements are therefore involved during this process:

IDENTIFICATION Know what potential and actual risks exist. Potential risks are something like weather... it *may* start to rain. Actual risks are things like physical condition or terrain... he *is* tired, it *is* steep. Indeed, potential risks if not managed properly, can quickly become actual risks. Different factors can be highlighted to help establish what risks there are:

- * PEOPLE: Staff, Clients & Public. People's physical and mental condition, skill, knowledge and experience set all contribute to how much of a risk each person represents. Similarly, the amount of people contributes to this. **Getting to know your clients and group sizes, are a huge part to risk management.**
- * ENVIRONMENT: Terrain, Weather, Time of Day. All factors that can quickly change from a potential risk to an actual risk. **Be informed and know the weather forecast and area like the back of your hand.**
- * EQUIPMENT: Bikes, Helmets, Shoes, Bags, Supplies, First Aid, Phones, Radios, etc. Equipment should never become an actual risk. **Proper bike and equipment checks at the start and throughout your lessons, are essential.**
- * TEACHING & GUIDING: This is for the instructors. Teaching and guiding people inherently comes with it's own set of risks. Are you teaching them the right thing? Is it too soon? Is the terrain you've chosen suitable? Did you demonstrate it properly? Have you confused the student? Do I have too many students? **Assess your teaching!**

ASSESSMENT Once the risks have been identified, it's now time to assess how much of a risk each factor represents; sorting them into potential and actual risks is a great place to start.

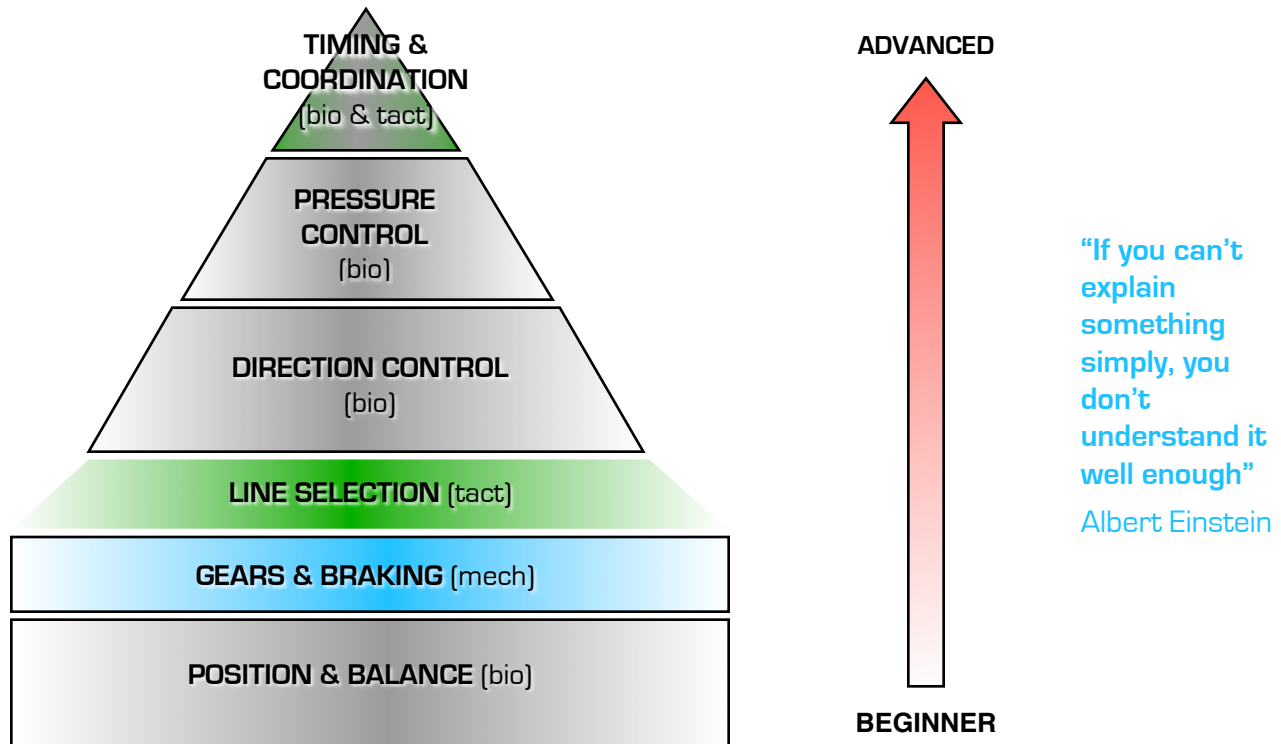
PRIORITIZATION From here we can prioritize risks based on *how likely* they might occur, and what will be the *impact* should they do so. For example, a risk might be likely to happen on every lesson (it rains), but it's impact could be minimal, so it still has lower priority than something that is less likely to happen, but if it does so, it could be a catastrophe (brakes fail).

PLAN OF ACTION The instructor and business are now ready to instigate and perform a set of procedures and policies to ensure all these risks are managed professionally. These might include things like Emergency Action Plans (EAP's), Waivers, Medical Response, Skill Assessment, Equipment Assessment, Class Sizes, Group Management and Company Policies. **Staff Training and Professional Certification are a key factor to proper Risk Management.**

SIX SKILL PYRAMID

This Six Skill System **maximizes our ability to analyze the sport of mountain biking**, and therefore **understand the sport in greater detail**. As Einstein once said, "If you can't explain something simply, you don't understand it well enough". As instructors, our goal is to teach our students as safely and effectively as possible. This means, in order for us to keep things simple, we need to first, clearly understand what it is we're teaching.

Other benefits to the Six Skill System, is that it **provides a logical, natural progression from which to teach**; the relationship between the different skills, and how they build on each other, can be seen here in the Six Skill Pyramid.



A "SKILL" IS A FUNDAMENTAL AND NECESSARY COMPONENT OF MOUNTAIN BIKE RIDING... INDEED, RIDING IS SIMPLY A BLEND OF THE SIX SKILLS WORKING TOGETHER, WHETHER THE RIDER IS AWARE OF THEM, OR NOT; a rider is constantly applying these six skills either consciously and/or subconsciously, independently and/or together, to control and manipulate the bike to give smooth, consistent riding. **The better an instructor understands these skills**, the better they can not only teach, but also **improve their own riding**.

As illustrated by the "Six Skill Pyramid", each skill builds on the former. **The fundamental skills are Position & Balance and Gears & Braking**, and provide the solid base from which the rest of the skills can develop. These two skills are the "stable base" to riding a bike, so must be learnt before any of the other skills.

The skills build on each other as the riding ability increases; for example, a beginner rider will largely focus on the more basic skills of Position & Balance and Gears & Braking, while an expert rider will be working on the more advanced skills, like Direction Control and Pressure Control. **A beginner rider is beginning to acquire these skills, while an intermediate or advanced rider has begun to consolidate some skills, and is working on refining other skills.**

ADVANCED SKILL SUMMARY

POSITION & BALANCE SUMMARY

STABILITY

the ability to resist forces.

BALANCE

managing instability.

CENTRE OF MASS

the COM of an object is an imaginary point around which the entire mass of the object is distributed equally. Standing on a bike, this is often "in the air", somewhere in front of the riders belly button.

RANGE OF MOVEMENT

how far a rider can comfortably move over the bike, in all four planes.

STABILITY VS. BALANCE

A rider with less ROM, needs more stability.

A rider with more ROM, requires less stability.

If a rider can move more over the bike, they can better react and adapt - they can handle not being stable, much better.

PERFORMANCE

Advanced riding requires more ROM to control and manipulate the bike, and react to terrain

ADVANCED BRAKING SUMMARY

"GRADUAL, CONSISTENT, MODULATE"

... the words we use to describe HOW we brake

RATIO OF BRAKING

Depends on the rate of deceleration

faster = more front brake

SELECTIVE BRAKING

Trying to control speed while minimizing the negative effects of braking

BRAKING THROUGH CORNERS

"Trail Braking" to maximize stability and control of body position

HEAVY BRAKING

Relationship between position of rider's mass and how much power each brake has

- move too far back, no front brake
- try to stay low and centered for heavy braking

PRESSURE BRAKING

Use braking points when bike is loaded with pressure - more grip = more brake!

- landings
- compressions
- pump braking

DIRECTION CONTROL SUMMARY

DIRECTION CONTROL MEANS:

1. Maintaining direction: trying to hold a line
2. Small direction change: changing line or avoiding an obstacle
3. Complete direction change: directing the bike through a corner

STEERING

Using rotational body movements to help drive the bike through the corners. Also improves stability.

ANGULATION

Leaning the bike more than the body for more

- stability: keeps mass on top of bike/BOS
- control: easier/quicker to move bike
- grip

INCLINATION

Leaning together with the bike.

Every corner involves both inclination and angulation to different degrees.

These are the key movements to control a bike's direction. Pedal position is a much smaller topic: a "could know", not "need to know". Flat corners can be performed with pedals level or outside pedal down.

PRESSURE CONTROL SUMMARY

PASSIVE PRESSURE CONTROL

The rider enables the arms and legs to bend as and when the bike rolls over bumps and dips, much like shock absorbers in the car.

The rider is not actively extending or bending their joints.

PRESSURE MANAGEMENT

ACTIVE PRESSURE CONTROL

A rider can actively change the pressure on the bike independently to how the terrain affects the pressure. Here, a rider is engaging their muscles to actively push (extend) on the bike or flex their joints to absorb and reduce pressure.

CREATE/RELEASE PRESSURE

TERRAIN-BASED PRESSURE

The terrain exerts or removes pressure from the bike/rider. You hit a bump, the bump increases pressure on the bike

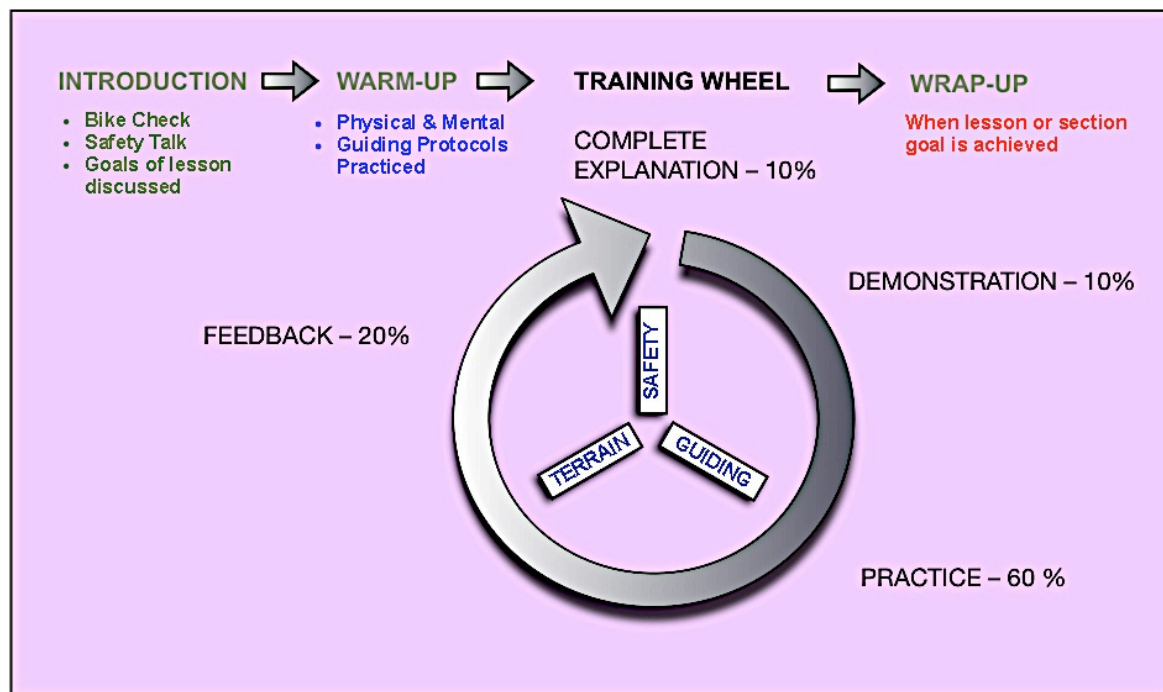
RIDER-BASED PRESSURE

The rider can choose to absorb the bump, or push against it, and maybe get some air!

FORE-AFT PRESSURE

Pressure can be applied fore-aft, laterally or vertical over the bike

LESSON FORMAT & TRAINING WHEEL



EXPLANATION

WHAT, WHY, HOW, WHY2: Less talk is more. Simple verbal communication is the key to effective sports teaching. Detailed, but short and sweet.

"What we're going to work on is body position on the bike as we climb..."

Why, to feel more stable...

How we're going to do this is wrists low, chest low and slide your bum forward on the seat...

This helps to keep you low and forward, keeping the front wheel down and you stable as you climb"

DEMONSTRATIONS

Visual communication is a perfect way to teach without talking too much... a picture says a 1000 words, after all. Different demo's include STATIC, ACTIVE and CONTRAST.

PRACTICE

Mileage is essential for learning. It makes lessons fun and help riders *feel* the result of the techniques they are learning. Keep the terrain and speed mellow to allow the rider the confidence and safety to try the techniques properly.

FEEDBACK

Essential for the lesson to keep progressing, for the instructor to ensure student understanding, and for the student to know how they are doing. Visual and question-based feedback helps "fuel the fire" of learning.

GOAL SETTING FOR EFFECTIVE LESSONS

WHY ARE GOALS IMPORTANT?

Goals are the foundation to successful lessons, sessions, or training programs. They are the P&B of teaching. They ultimately are what students either want, or need to learn.

WHAT ARE THE DIFFERENT TYPES OF GOALS?

- **STUDENT-based Goal:** What the student feels they want/need/can/are ready to learn
- **INSTRUCTOR-based Goal:** What the instructor feels the student is ready/needs to be based on visual and question-based assessment. Typically instructor goals are the skills behind the techniques: Position & Balance, for example.
- **TERRAIN-based Goal:** Terrain can often dictate the focus of the lesson; if a student is ready and wants to ride Schleyer (a trail with many drops) the morning lesson focus could be drops and rock rolls.

HOW TO SET GOALS EFFECTIVELY

ANALYZE: Watch the student to learn what they can do and to what degrees of proficiency.

ASK QUESTIONS: What do you want to achieve? What's your main priority? How easy or hard is that?

PRIORITIZE: Decide which goals should come first, and what's achievable in the time frame.

S.M.A.R.T: Specific, Measurable, Achievable, Realistic, Time-line.

I.A.C.R.CV SKILL DEVELOPMENT MODEL

by Coaches Association of Canada, adapted from CASI Reference Guide

Development Level	Description	Teaching Considerations	Teaching Method
INITIATION	- First time attempting skill - "Blank Slate"	- Clear, simple teaching - Easy terrain - Repetition	Instructing
ACQUISITION	- Minimal mileage with skill - Inconsistent - Needs to think to perform movements	- Needs more repetition - No need for perfection - Ensure understanding for correct learning	Instructing
CONSOLIDATION	- Easy conditions creates consistent results - Inconsistent when challenged - Movement patterns stronger	- More mileage in varied (& challenging) conditions - Direct or Positive Feedback	Instructing & Coaching
REFINEMENT	- Consistent performance - Autonomous movements - Fine tuning is still required to enhance skill further	- Expectations of rider and coach are higher - Continue to challenge technique	Coaching
CREATE VARIATION	- Consistent in any situation - Movements can be adjusted as/when needed - Ideal picture & result	- Allow rider to develop style - Create new techniques - Continue to challenge but ask for perfection	Coaching

PERFORMANCE AFFECTING FACTORS

TECHNICAL Six Skills, Biomechanics, Physics

These include the Six Skills of Mountain Biking (the technique of how to ride a bike), biomechanics (body movements) and physics within the sport of mountain biking. The stronger the technical skills of an athlete, the better their bike handling skills will be. This is a huge component to “being able to ride a bike well”, but only one of many components when it comes to “being a competitive mountain biker”.

EQUIPMENT Equipment Set-Up, Maintenance, Awareness & Knowledge

Equipment plays a significant role in an athlete’s success, and no more so in the technology driven sport of mountain biking. The Coaches role is to educate the athlete further on how to maintain and set-up their equipment for different and specific purposes: training vs. racing, course specific set-up, weather specific set-up etc. Athlete and Coach should always be looking to maximize their equipment set-up to optimize the other PAF’s.

MENTAL Emotional, Psychological, Strength & Condition

Mental Coaching is a skill and discipline in it’s own right. It is the responsibility of any high level coach to receive the training they require to effectively deal with the mental aspects of coaching, when training their athlete(s). The mental condition of an athlete plays a significant role between being a great rider vs. a successful competitor. Competitive mountain biking includes a huge variety of mental stressors (fear, stress, confidence, doubt, anger, sadness) that a coach needs to be aware of and assess, to be able to effectively mitigate, manage and even help their athlete control. A happy, confident, stress free athlete, while often difficult to achieve, is typically a more successful athlete.

PHYSICAL Aerobic Fitness (Cardio), Anaerobic Fitness (Strength), Passive/Dynamce Flexibility, Nutrition, Injury, Rehabilitation

An intrinsic component to any athlete’s success is their physical condition. A coach must understand the physical demands relevant to the level of competition for the given discipline of the athlete, and make sure the athlete can meets these demands. Rest, nutrition, physical training and cross training can all play key roles in athlete conditioning.

ENVIRONMENTAL Terrain, Weather, Course Conditions

The Coaches role is to prepare an athlete for competition based on both the expected and unexpected environmental conditions. Training for specific courses, weather and terrain is as important as training for all types of environmental factors, to help develop specialized skills while developing the ability to adapt at the same time.

TACTICAL Game Plan, Strategies, Competition Practice, Becoming a racer

Racing is just like most other things in life... the more you do it, the better you get at it. You can be the best rider in the world, but with no racing experience, you are likely to not get very consistent or decent results. The tactical (or strategic) side to coaching is how a coach prepares and plans an athlete for racing. What will be the game plan come race weekend? How many practice runs? What part of the track to focus on the most? How much to push it in qualifying? When/how much should athletes warm-up? What will be the judging format? Try to simulate race scenarios/experiences when training... get the athlete used to the pressures outside of competition.

LEVEL 2 WORKSHEET

NAME THE "SIX SKILLS" OF MOUNTAIN BIKING, IN ORDER **AND THE SEPARATE COMPONENTS OF EACH SKILL.**

1.

2.

3.

4.

5.

6.

WHAT IS THE FUNDAMENTAL SKILL TO DOWNHILL RIDING AND WHY?

WHAT SKILL DO YOU THINK YOU NEED TO WORK ON THE MOST TO IMPROVE YOUR RIDING AND WHY?

WHAT ARE THE KEY SKILLS TO DEVELOPING A RIDER'S ABILITY ABOVE THE INTERMEDIATE LEVEL OF RIDING, AND WHY?

WHAT ARE THE THREE LEARNING STYLES AND HOW DO WE CATER FOR THEM?

NAME THE THREE GOALS OF TEACHING AND EXPLAIN EACH ONE?

- 1.
- 2.
- 3.

WHICH OF THE INSTRUCTOR ATTRIBUTES YOU THINK APPLY TO YOU THE MOST AND WHICH, THE LEAST?

WHAT ARE THE TWO TYPES OF FEEDBACK AND EXPLAIN EACH ONE?

- 1.
- 2.

HOW WOULD YOU SET UP YOUR GROUP, SO YOU CAN WATCH THEM TO GIVE VISUAL FEEDBACK...

- WHILE LEADING THE GROUP:

- WHILE NOT LEADING THE GROUP:

EXPLAIN THE MAIN CORNERING TECHNIQUES EMPLOYED ON FLAT CORNERS, AND WHY?

EXPLAIN THE MAIN CORNERING TECHNIQUES EMPLOYED ON BANKED CORNERS, AND WHY?

EXPLAIN SOME SIMPLE EXERCISES/BODY MOVEMENTS TO HELP DEVELOP A MORE STABLE, CENTERED POSITION ON THE BIKE WHEN GOING DOWNHILL... SO RIDERS CAN FIND THAT ALL IMPORTANT "SWEET SPOT".

WHAT ARE THE TWO PARTS TO PRESSURE CONTROL? EXPLAIN EACH ONE A LITTLE...

1.

2.

WHAT OTHER FACTORS CAN AFFECT A STUDENTS PERFORMANCE, OTHER THAN THEIR SKILLS?

JUMPS & DROPS QUESTIONS

WHAT ARE THE PRE-REQUISITES TO DROP-OFFS WITH AIR?

WHAT ARE THE PRE-REQUISITES TO JUMPING, AND WHY?

DESCRIBE THE "THREE SKILLS OF JUMPING", AND EXPLAIN WHY IT'S SO IMPORTANT?

DESCRIBE EACH STAGE OF JUMPING WITH SOME DETAILS:

1.

2.

3.

WHAT HAPPENS TO THE TIMING OF THE "PUMP", AND WHY, WHEN YOU...

1. GO FASTER INTO THE SAME JUMP

2. GO SLOWER INTO THE SAME JUMP

3. THE RAMP BECOMES LONGER

4. THE TRANSITION IS A TIGHTER RADIUS (THE RAMP IS STEEPER)

TECHNICAL MANEUVER QUESTIONS

WHAT ARE THE KEY POINTS TO EXECUTING A MANUAL?

DESCRIBE A PROGRESSION TO TEACH MANUALS?

WHAT ARE THE KEY POINTS TO EXECUTING A BUNNYHOP?

DESCRIBE A PROGRESSION TO TEACH BUNNYHOPS?

EXPLAIN THE **I.D.E.A** ACRONYM AND HOW IT HELPS TEACHING MANEUVERS?

WHAT ARE THE KEY POINTS TO EXECUTING A STOPPIE or ENDO WITH A PIVOT?

DESCRIBE A PROGRESSION TO TEACH STOPPIE or ENDO WITH A PIVOT?

WHAT ARE THE KEY SKILLS REQUIRED FOR ADVANCED MANEUVERS?

EXAMPLE LESSON PLAN

TITLE: Braking in rough and/or technical terrain.

SPECIFIC LESSON GOAL (what, why): Learning when & how to use the front brake for more control and smoothness.

SKILL: **Braking**

SKILL COMPONENT: **When** to brake: selective braking

STUDENT ABILITY LEVEL: Intermediate to Advanced

TERRAIN CHOICE & CONSIDERATIONS: Combination of blue or black, technical, rooty trails and fast flowy trails. Weather concerns and plan B if trail is closed.

TIMELINE: 20 minutes to introduce, try and get some feedback on the concept

BIOMECHANICS & RESULTS/FEELINGS: Staying low by flexing a waist, bending arms and legs. Feel more strong and stable. Less like the body wants to move forward. Re-center before/after braking, if needed.

TACTIC ONE: In steeper, rough terrain have both brakes on, then letting the front brake off quickly as the front wheel passes over roots, rocks, or into bumps or dips. Hopefully feel better traction and smoother ride as the wheel and fork track the ground better.

TACTIC TWO: Looking for “braking zones” to brake more than you normally would to allow less front brake, or even no brakes, in the following or preceding sections. Using Trail Scanning to actively read the terrain and decide where to brake more to use less front brake, or even both brakes.

TACTIC THREE: Keep centered and practice braking on fire road with the front brake... allowing pressure to build in hands and therefore front wheel, to increase braking traction; learning how much front brake you can have in loose terrain, if you stay centered.

APPLICATION: Ride technical terrain that is not too challenging so as to allow students the ability to try the technique, and hopefully feel a difference: more active suspension, smoother ride, better traction, better momentum etc.

GUIDING STRATEGIES: Stay at the front to lead group or have one student lead, while I follow to watch. Change who follows me so students can all get a demo. Stop group and walk back up hill so I can ride past group at a good section, and give them a proper demo.

POTENTIAL FEEDBACK: Do you feel like the bike is absorbing the bumps better with less front/both brakes? Does staying centered give you more control on the front brake? Watching for students who don't slow down enough, and then still keep the brakes on afterwards.

Further notes:

LESSON PLAN - SKILLS

TITLE:

SPECIFIC LESSON GOAL (what, what, why, why, how, how):

SKILL:

SKILL COMPONENT:

STUDENT ABILITY LEVEL:

TERRAIN CHOICE & CONSIDERATIONS:

TIMELINE:

BIOMECHANICS & RESULTS/FEELINGS:

TACTIC ONE:

TACTIC TWO:

APPLICATION:

GUIDING STRATEGIES:

POTENTIAL FEEDBACK:

Further notes:

LESSON PLAN - JUMP or DROPS or TECH MAN.

TITLE:

SPECIFIC LESSON GOAL (what, what, why, why, how, how):

SKILL:

SKILL COMPONENT:

STUDENT ABILITY LEVEL:

TERRAIN CHOICE & CONSIDERATIONS:

TIMELINE:

BIOMECHANICS & RESULTS/FEELINGS:

TACTIC ONE:

TACTIC TWO:

APPLICATION:

GUIDING STRATEGIES:

POTENTIAL FEEDBACK:

Further notes:

SKILL DEVELOPMENT EXERCISES & TASKS

POSITION & BALANCE		BIO-MECHANICS/TASKS
Stability Balance (ROM)		
GEARS & BRAKING		
Cadence Pedaling Technique How, When, Ratio		
LINE SELECTION		
Trail Scanning Line Choice		
DIRECTION CONTROL		
Steering Leaning (Inclination or Angulation)		
PRESSURE CONTROL		
Passive Active Planes of Movement		
TIMING & COORDINATION	SPEED PERCEPTION: Train athlete to keep a calm "frame of mind" when racing/riding fast/being challenged. This can reduce stress/adrenaline levels that can interfere with autonomous movements and increase fear/decrease speed and objective decision making...	<ul style="list-style-type: none"> - Fast paced riding on easy then gradually harder terrain - Timed run stressed & calm - Mental focus tactic to remain calm - Change line on common trail as coach dictates