

New Rider Maintenance Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
<i>Tires & Tubes</i>			
12	Wheel Removal	Demo & Lab	10
15	Removal of Tire & Tube from Rim	Demo & Lab	10
15	Inner Tube Inspection	Demo	5
22	Installation of Tire & Tube on Wheel	Demo & Lab	10
26	Wheel Installation	Demo & Lab	5
<i>Chains</i>			
109	Chain Wear and Damage	Lecture	5
110	Chain Cleaning	Demo	5
110	Chain Lubrication	Demo & Lab	10
<i>Rear Sprockets</i>			
36	Sprocket Inspection & Cleaning	Demo & Lab	10
<i>Derailleur Systems</i>			
133	Index Adjustment (Rear)	Demo & Lab	20
<i>Wheel Truing</i>			
63	Wheel Wear, Damage, & Repair	Lecture & lab	20
<i>Brake Systems</i>			
184	Rim Brake: pad alignment check	Demo & Lab	20
164	Hydraulic Disc Brake: pad alignment check	Demo & Lab	10
174	Mechanical Disc Brake: pad alignment check	Demo & Lab	10
<i>Frame & Fork</i>			
219	Frame Damage Inspection	Lecture	10
TOTAL:			160

Novice Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
Chapter 1—Basic Mechanical Skills			
1-ii	Class Welcome Talk	Lecture	10
2	Threaded Fastener Tension & Torque	Lecture	5
4	Lubrication, Threadlockers, & Cleaners	Reading	—
6	Diagnosing & Solving Mechanical Problems	Reading	—
6	Tool Selection	Reading	—
7	Repair Stands	Reading	—
7	Home Shop Setup	Reading	—
TOTAL:			15
Chapter 2—Tires & Tubes			
2-i	Chapter Overview	Lecture	5
12	Wheel Removal	Demo & Lab	5
14	Removal of Tire & Tube from Rim	Demo & Lab	10
15	Inner Tube Inspection	Lecture	5
16	Tire Inspection	Lecture	5
17	Rim Strip	Reading	—
18	Inner Tube Sealants	Reading	—
18	Tire Liners	Reading	—
19	Inner Tube Valves	Reading	—
20	Tire & Tube Sizing	Reading	—
21	Installation of Tire & Tube on Wheel	Demo & Lab	10
22	Wheel Installation	Demo & Lab	10
26	Tubeless Systems	Lecture	5
TOTAL:			55
Chapter 3—Rear Sprockets			
3-i	Chapter Overview	Lecture	5
32	Cassette Sprocket Removal & Installation	Demo	10
35	Freewheel Sprocket Removal & Installation	Demo	10
36	Sprocket Inspection & Cleaning	Demo & Lab	10
TOTAL:			35
Chapter 5—Wheel Truing			
5-i	Chapter Overview	Lecture	5
54	Wheel Truing Overview	Lecture	5
56	Truing Procedures (Lateral)	Demo & Lab	20
63	Wheel Wear, Damage, & Repair	Lecture	5
TOTAL:			35
Chapter 7—Cranksets			
7-i	Chapter Overview	Lecture	5
76, 83	Crank and Bottom Bracket System Types	Lecture	10
83	Bottom Bracket Wear	Lecture & Lab	10
TOTAL:			
Chapter 8—Chains			
8-i	Chapter Overview	Lecture	5
103	Shimano® Chains with Connecting Rivet	Demo & Lab	15

105	Chains with Quick Link	Lecture & Lab	10
109	Chain Wear and Damage	Lecture & Lab	10
110	Chain Cleaning	Demo only or with Lab (30)	15
110	Chain Lubrication	Demo & Lab	10
TOTAL:			65
Chapter 9—Pedals			
9-i	Chapter Overview	Lecture	5
114	Pedal Removal	Demo & Lab	5
114	Pedal Installation	Demo & Lab	5
TOTAL:			15
Chapter 10—Derailleur Systems			
10-i	Chapter Overview	Lecture	5
131	Rear Derailleur	Lecture	5
132	Limit Screw Adjustment	Demo & Lab	15
133	Index Adjustment	Demo & Lab	20
134	B-Screw Adjustment	Demo	5
139	Derailleur Wear & Service	Lecture	5
139	Troubleshooting Derailleur Systems	Lecture	5
TOTAL:			60
Chapter 13—Caliper Disc Brake Systems			
13-i	Chapter Overview	Lecture	5
160	Caliper Types	Lecture	5
162	Disc Brake Rotors	Lecture	5
164, 174	Brake Caliper Alignment: Hydraulic & Mechanical	Demo & Lab	30
TOTAL:			45
Chapter 14—Caliper Rim Brake Systems			
14-i	Chapter Overview	Lecture	5
182	Cable Housing Length	Reading	—
184	Brake Pads	Demo & Lab	45
185	Linear-Pull Caliper Adjustment	Include as Needed	—
187	Cantilever Caliper Adjustment	Include as Needed	—
189	Dual Pivot Caliper Adjustment	Include as Needed	—
191	Side Pull Caliper Adjustment	Include as Needed	—
TOTAL:			50

Intermediate Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
Chapter 1—Basic Mechanical Skills			
1-ii	Class Welcome Talk	Lecture	10
2	Threaded Fastener Tension & Torque	Lecture	10
4	Lubrication, Threadlockers, & Cleaners	Reading	—
5	Bearing Systems	Reading	—
6	Diagnosing & Solving Mechanical Problems	Reading	—
6	Tool Selection	Reading	—
7	Repair Stands	Reading	—
7	Home Shop Setup	Reading	—
TOTAL:			20
Chapter 2—Tires & Tubes			
2-i	Chapter Overview	Lecture	5
12	Wheel Removal	Reading	—
14	Thru Axle Systems	Demo	10
15	Removal of Tire & Tube from Rim	Reading	—
15	Inner Tube Inspection	Lecture	5
16	Tire Inspection	Lecture	5
21	Tire & Tube Sizing	Reading	—
22	Installation of Tire & Tube on Wheel	Demo	10
26	Wheel Installation	Demo	10
23	Tubeless Tire Systems	Demo	10
25	Tubeless Conversion Systems	Reading	—
TOTAL:			55
Chapter 3—Rear Sprockets			
3-i	Chapter Overview	Lecture	5
34	Cassette Sprocket Removal & Installation	Demo & Lab	15
36	Freewheel Sprocket Removal & Installation		
38	Sprocket Inspection & Cleaning	Lecture	10
39	Fixed Gear Sprocket	Reading	—
TOTAL:			30
Chapter 4—Hubs			
4-i	Chapter Overview	Lecture	5
42	Hub Bearing Service for Adjustable Cup-and-Cone Type	Lecture	5
45	Hub Adjustment	Demo & Lab	20
47	Cartridge Bearing Hubs	Lecture	10
TOTAL:			40
Chapter 5—Wheel Truing			
5-i	Chapter Overview	Lecture	5
56	Truing Procedures	Lecture & Demo	10
57	Lateral Truing	Demo & Lab	20
57	Radial Truing	Demo	5
59	Wheel Centering (Dishing)	Demo & Lab	5

60	Spoke Tension	Demo	5
63	Wheel Wear, Damage, & Repair	Lecture	5
TOTAL:			55
Chapter 7—Cranksets			
7-i	Chapter Overview	Lecture	5
77	Crank Removal & Installation	Demo & Lab	30
77	Self-Extracting Crank Systems	Include as Needed	—
78	Three-Piece Cranks	Include as Needed	—
79	Two-Piece Compression Slotted Cranks	Include as Needed	—
80	Two-Piece Cranks Using Wave Washer	Include as Needed	—
80	Two-Piece Cranks: Preload Adjuster Ring	Include as Needed	—
85–90	Bottom Bracket Bearing Service for Non-Threaded Shells	Demo using one standard	10
96	Chainring Wear and Damage	Lecture	5
TOTAL:			50
Chapter 8—Chains			
8-i	Chapter Overview	Lecture	5
100	Chain Sizing for Derailleur Bikes	Demo & Lab	10
102	Chain Removal	Demo & Lab	10
103	Shimano® Chains with Connecting Rivet	Demo & Lab	15
105	Chains with Quick Connect	Lecture	5
109	Chain Wear and Damage	Lecture	5
110	Chain Cleaning	Demo	5
110	Chain Lubrication	Demo & Lab	10
TOTAL:			65
Chapter 10—Derailleur Systems			
10-i	Chapter Overview	Lecture	5
118	Cable System	Lecture	5
119	Cable Housing Length and Routing	Lecture	5
124	Front Derailleur	Demo	10
127	Limit Screw Adjustment	Demo & Lab	10
129	Front Index Adjustment	Demo & Lab	10
131	Rear Derailleur	Lecture	5
132	Limit Screw Adjustment	Demo & Lab	20
133	Index Adjustment	Demo & Lab	20
134	B-Screw Adjustment	Demo	5
136	Derailleur Hanger Alignment & Repair	Demo	10
TOTAL:			105
Chapter 13—Caliper Disc Brake Systems			
13-i	Chapter Overview	Lecture	5
160	Caliper Types	Lecture	5
164	Hydraulic Brake Caliper Alignment	Demo & Lab	20

174	Mechanical Brake Caliper Alignment	Demo & Lab	20
TOTAL:			50
Chapter 14—Caliper Rim Brake Systems			
14-i	Chapter Overview	Lecture	5
181	Cable System	Lecture	5
183	Caliper Rim Brakes	Demo & Lab	30
185	Linear Pull Caliper Adjustment	Include as Needed	—
187	Cantilever Caliper Adjustment	Include as Needed	—
189	Dual Pivot Caliper Adjustment	Include as Needed	—
191	Side Pull Caliper Adjustment	Include as Needed	—
TOTAL:			40
Chapter 15—Handlebars, Stems, Saddles, & Seatposts			
15-i	Chapter Overview	Lecture	5
194	Upright Handlebars	Reading	—
195	Drop Handlebars (Road Bars)	Reading	—
196	Stems	Lecture	10
199	Seatposts	Lecture	5
TOTAL:			20
Chapter 16—Headsets			
16-i	Chapter Overview	Lecture	5
204	Headset Types	Lecture	5
207	Threadless Headset Adjustment	Demo & Lab	15
TOTAL:			25
Chapter 19—On-Ride Repair			
228	—	Include as Needed	—

Advanced Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
Chapter 1—Basic Mechanical Skills			
1-ii	Class Welcome Talk	Lecture	10
2	Threaded Fastener Tension & Torque	Lecture	10
4	Lubrication, Threadlockers, & Cleaners	Reading	—
5	Bearing Systems	Reading	—
6	Diagnosing & Solving Mechanical Problems	Reading	—
6	Tool Selection	Reading	—
7	Repair Stands	Reading	—
7	Home Shop Setup	Reading	—
8	Work Procedures & Safety	Lecture	5
TOTAL:			25
Chapter 2—Tires & Tubes			
2-i	Chapter Overview	Lecture	5
12	Wheel Removal	Reading	—
15	Inner Tube Inspection	Reading	—
15	Removal of Tire & Tube From Rim	Reading	—
15	Inner Tube Inspection	Lecture	5
16	Tire Inspection	Lecture	5
21	Tire & Tube Sizing	Lecture	10
23–25	Tubeless Tire and Conversion Systems	Lecture & Demo	15
26	Wheel Installation	Demo	10
28	Thru Axle Systems	Demo	10
TOTAL:			60
Chapter 3—Rear Sprockets			
3-i	Chapter Overview	Lecture	5
32	Cassette Sprocket Removal & Installation	Demo & Lab	15
36	Sprocket Inspection & Cleaning	Lecture	10
TOTAL:			30
Chapter 4—Hubs			
4-i	Chapter Overview	Lecture	5
42	Hub Bearing Service for Adjustable Cup-and-Cone Type	Lecture	5
44	Disassembly	Demo	5
45	Parts Inspection	Demo	5
45	Assembly	Demo	5
45	Hub Adjustment	Demo & Lab	20
47	Cartridge Bearing Hubs	Lecture	25
TOTAL:			70
Chapter 5—Wheel Truing			
5-i	Chapter Overview	Lecture	5
54	Wheel Truing Overview	Lecture	5
56	Truing Procedures	Lecture	10
57	Lateral Truing	Demo & Lab	20

57	Radial Truing	Demo	5
59	Wheel Centering (Dishing)	Demo	5
60	Spoke Tension	Demo	5
62	Spoke Tension Balance	Demo	10
63	Wheel Wear, Damage, & Repair	Lecture	5
TOTAL:			70
Chapter 7—Cranksets			
7-i	Chapter Overview	Lecture	5
76	Crank Types	Lecture	10
77	Crank Removal & Installation	Demo & Lab	30
77	Self-Extracting Crank Systems	Include as Needed	—
78	Three-Piece Cranks	Include as Needed	—
79	Two-Piece Compression Slotted Cranks	Include as Needed	—
80	Two-Piece Cranks Using Wave Washer	Include as Needed	—
80	Two-Piece Cranks: Preload Adjuster Ring	Include as Needed	—
81	Campagnolo® and Fulcrum® Ultra-Torque® Cranks	Include as Needed	—
83	Bottom Bracket System Types	Lecture	5
84	Threaded Standards	Lecture	5
84	Non-Threaded Standards	Lecture	10
85–89	Bottom Bracket Bearing Service for Non-Threaded Shells	Demo using one standard	10
90–94	Bottom Bracket Bearing Service for Threaded Shells	Demo using one standard	10
95	Chainring Replacement with Mounting Arms	Reading	5
TOTAL:			90
Chapter 8—Chains			
8-i	Chapter Overview	Lecture	5
100	Chain Sizing for Derailleur Bikes	Demo & Lab	10
102	Chain Removal	Demo & Lab	10
103	Shimano® Chains with Connecting Rivet	Demo & Lab	15
105	Chains with Quick Links	Lecture	5
106	Chain with Reusable Rivets	Demo & Lab	10
109	Chain Wear and Damage	Lecture	5
110	Chain Cleaning	Demo	5
110	Chain Lubrication	Demo & Lab	10
TOTAL:			75
Chapter 10—Derailleur Systems			
10-i	Chapter Overview	Lecture	5
118	Cable System	Lecture	5
119	Cable Housing Length and Routing	Lecture	5
120	Shift Levers	Demo	10

124	Front Derailleur	Demo	10
126	Height Adjustment	Demo & Lab	10
126	Rotational Adjustment		
127	Limit Screw Adjustment	Demo & Lab	15
129	Front Index Adjustment	Demo & Lab	10
130	Front Derailleur Performance	Lecture	5
131	Rear Derailleur	Lecture	5
131	Derailleur Capacity and Maximum Sprocket Size	Lecture	5
132	Limit Screw Adjustment	Demo & Lab	15
133	Index Adjustment	Demo & Lab	20
134	B-Screw Adjustment	Demo	5
136	Derailleur Hanger Alignment & Repair	Demo	15
139	Derailleur Wear & Service	Reading	—
TOTAL:			140
Chapter 11—Electronic Derailleur Systems			
11-i	Chapter Overview	Lecture	5
142–150	Select one model to demonstrate	Demo	10
TOTAL:			15
Chapter 13—Caliper Disc Brake Systems			
13-i	Chapter Overview	Lecture	5
160	Caliper Types	Lecture	5
161	Brake Pads	Lecture	5
162	Disc Brake Rotors	Lecture	5
163	Hydraulic Brake Systems	Reading	—
164	Hydraulic Brake Caliper Alignment	Demo & Lab	20
174	Mechanical Disc Brake Systems	Demo & Lab	20
TOTAL:			80
Chapter 14—Caliper Rim Brake Systems			
14-i	Chapter Overview	Lecture	5
181	Cable System	Lecture	5
183	Caliper Rim Brakes	Demo & Lab	30
185	Linear Pull Caliper Adjustment	Include as Needed	—
187	Cantilever Caliper Adjustment	Include as Needed	—
189	Dual Pivot Caliper Adjustment	Include as Needed	—
191	Side Pull Caliper Adjustment	Include as Needed	—
TOTAL:			40
Chapter 15—Handlebars, Stems, Saddles, & Seatposts			
15-i	Chapter Overview	Lecture	5
196	Stems	Lecture	15
200	Dropper Housing Sizing	Demo	10
TOTAL:			25
Chapter 16—Headsets			

16-i	Chapter Overview	Lecture	5
204	Headset Types	Lecture	5
207	Threadless Headset Adjustment	Demo & Lab	15
209	Headset Replacement & Installation	Lecture	10
TOTAL:			35
<i>Chapter 17—Frame & Fork</i>			
17-i	Chapter Overview	Lecture	5
TOTAL:			5
<i>Chapter 18—Suspension</i>			
18-i	Chapter Overview	Lecture	5
TOTAL:			5
<i>Chapter 19—On-Ride Repairs</i>			
228	—	Include as Needed	—

Tires and Tubes Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
2-i	Chapter Overview	Lecture	15
12	Wheel Removal	Lecture	5
15	Removal of Tire & Tube From Rim	Demo & Lab	10
15	Inner Tube Inspection	Lecture	5
16	Tire Inspection	Lecture	5
17	Rim Strip	Reading	5
18	Inner Tube Repair	Demo & Lab	20
18	Inner Tube Repair with Self-Vulcanizing Patches		
18	Pre-Glued Patch Repair	Demo Only	5
19	Inner Tube Sealants	Lecture	5
19	Tire Liners	Reading	—
19	Temporary Tire Repair with Tire Boot	Reading	—
20	Inner Tube Valves	Lecture	5
21	Tire & Tube Sizing	Lecture	5
22	Installation of Tire & Tube on Wheel	Demo & Lab	10
26	Wheel Installation	Demo & Lab	10
23	Tubeless Tire Systems	Lecture	5
TOTAL:			110

Caliper Disc Brake Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
13-i	Chapter Overview	Lecture	5
160	Caliper Types	Lecture	5
161	Brake Pads	Lecture	5
162	Disc Brake Rotors	Lecture	5
163	Hydraulic Brake Systems	Reading	—
164	Hydraulic Brake Caliper Alignment	Demo & Lab	20
165	Hydraulic Brake Fluid Service (if lab as bleeding)	Demo & Lab	60
166	Shimano® Hydraulic Brakes	Include as Needed	—
168	Magura® Hydraulic Caliper Brakes	Include as Needed	—
169	Hayes® Hydraulic Caliper Brakes	Include as Needed	—
170	SRAM® and Avid® Hydraulic Caliper Brakes	Include as Needed	—
173	Tektro® Hydraulic Brakes	Include as Needed	—
174	Mechanical Disc Caliper Systems	Demo & Lab	20
TOTAL:			120

Wheel Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
5-i	Overview	Lecture	5
54	Wheel Truing Overview	Lecture	5
56	Truing Procedures	Lecture	10
57	Lateral Truing	Demo & Lab	20
57	Radial Truing	Demo & Lab	15
59	Wheel Centering (Dishing)	Demo & Lab	15
60	Spoke Tension	Demo & Lab	20
62	Broken & Damaged Spoke Replacement	Lecture	10
63	Wheel Wear, Damage, & Repair	Lecture	15
TOTAL:			115

Wheel Building Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUTES
66	Spokes	Lecture	10
66	Hub	Lecture & Lab	10
67	Rim	Lecture & Demo	15
68	Spoke Cross Patterns	Lecture	5
69	First of Four Sets	Demo & Lab	20
70	Second of Four Sets	Demo & Lab	15
71	Third of Four Sets	Demo & Lab	15
72	Fourth of Four Sets	Demo & Lab	15
72	Bring Wheel to Tension	Demo & Lab	15
72	Wheel to Rim Transfer	Demo or Lecture	10
TOTAL:			135
<i>Bring wheel to full tension</i>			<i>+30</i>

Derailleur Systems Class Schedule

PAGE	TOPIC	TEACHING STYLE	MINUT ES
10-i	Chapter Overview	Lecture	5
118	Cable System	Lecture	5
119	Cable Housing Length and Routing	Lecture	10
120	Shift Levers	Demo	15
124	Front Derailleur	Demo & Lab	25
126	Height Adjustment		
126	Rotational Adjustment		
127	Limit Screw Adjustment	Demo & Lab	20
129	Front Index Adjustment	Demo & Lab	10
131	Rear Derailleur	Lecture	5
131	Derailleur Capacity and Maximum Sprocket Size	Lecture	5
132	Limit Screw Adjustment	Demo & Lab	15
133	Index Adjustment	Demo & Lab	30
134	B-Screw Adjustment	Demo	5
135	Clutch System Rear Derailleurs	Lecture	5
136	Chainline	Lecture	5
136	Derailleur Hanger Alignment & Repair	Demo	5
139	Derailleur Wear & Service	Lecture	5
TOTAL:			170