

Example Syllabus SCI Research Techniques Course

| Day 1 | Discussion Leader | Course Event / Lecture Title |
|---------------|--------------------------------------|--|
| 8:30-10:00am | Os Steward | Opening remarks Basics of Spinal Cord Injury |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Os Steward | SCI: Regeneration and Reinnervation |
| 12-2pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00 - 6:00pm | Core Instructors | Rat • Laminectomy • Anesthesia, Post-op care • Record keeping and tool use and care |
| 6:00-6:30pm | | Intro Blitz • Students give 5 min presentation on their research |
| 6:30-8:30pm | | Welcoming Reception |
| Day 2 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Mary Bunge | Combination Strategies to Improve Spinal Cord Repair |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Barbara Bregman | Regeneration and Recovery of Function after Spinal Cord Injury |
| 12:00-2:00pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00-6:00pm | Core Instructors | Rat • Contusion, IH device |
| 6:00-6:30pm | | Intro Blitz |
| Day 3 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Hans Keirstead | Myelin as a therapeutic target for the treatment of SCI |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Jacque Bresnahan | Behavioral analysis of spinal cord injured rats and the BBB locomotor rating scale |
| 12:00-2pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00-6:00pm | Jacque Bresnahan Core Instructors | Rat • BBB |
| 6:00-6:30pm | | Intro Blitz |

Example Syllabus SCI Research Techniques Course

| Day 4 | Discussion Leader | Course Event / Lecture Title |
|---------------|--------------------------------------|---|
| 8:30-10:00am | Jacque Bresnahan | BBB Scale training session |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Jacque Bresnahan | BBB Scale training session |
| 12:00-2:00pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00-6:00pm | Jacque Bresnahan Core Instructors | BBB Scale training session |
| 6:00-6:30pm | | Intro Blitz |
| Day 5 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Tom Carew | Central Pattern Generation: Past and Present |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Reggie Edgerton | Strategies to Recover Motor Control Following the Spinal Cord Injury: Currently and In the Near Future |
| 12:00-2pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00-6:00pm | Lloyd Guth | History of Regeneration Research I, II, & III • Microscopy |
| 6:00-6:30pm | | Intro Blitz |
| Day 6 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Os Steward | The Nogo Story |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Sam David | Parameters that Determine Outcome After Spinal Cord Contusion Injury and the Involvement of Iron-Mediated Free Radical Damage |
| 12:00-1pm | Susan Howley | Lunch • Introduction to Christopher Reeve Paralysis Foundation |
| 1:00 - 6:00pm | Core Instructors | Rat • Contusion, NYU and OSU devices |
| 6:00-6:30pm | | Intro Blitz |

Example Syllabus SCI Research Techniques Course

| Day 7 | Discussion Leader | Course Event / Lecture Title |
|-------------------|--------------------------|--|
| 8:30-10:00am | Wolf Tetzlaff | Cell body treatment for the promotion of spinal cord regeneration |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Sasha Rabchevsky | Dysfunction after spinal cord injury: Clinical and experimental therapeutics |
| 12:00-1:30pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 1:30 - 6:00pm | Core Instructors | Rat • Crush • BBB |
| 6:00-6:30pm | | Intro Blitz |
| Day 8 | Discussion Leader | Course Event / Lecture Title |
| 8:30am-10:00am | Phil Popovich | Neuroimmune Interactions Following Spinal Cord Injury |
| 10:00-10:30am | | Break |
| 10:30am – 12:00am | James Fawcett | Inhibition and intrinsic factors in regeneration and plasticity |
| 12:00-1:00pm | Catherine LePone | Lunch • Introduction to the Paralysis Project of America |
| 1:00 - 6:00pm | Core Instructors | Rat • Hemisection, dorsal and lateral • Physiology demonstration |
| 6:00-6:30pm | | Intro Blitz |
| Day 9 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Jerry Silver | Axon regeneration beyond the glial scar |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Michael Sofroniew | Transgenic dissection of astrocyte roles in spinal cord injury |
| 12:00-1:30pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 1:30 -6:00pm | Core Instructors | Mouse • Laminectomy • Anesthesia, Post-op care |
| 6:00-6:30pm | | Intro Blitz |

Example Syllabus SCI Research Techniques Course

| Day 10 | Discussion Leader | Course Event / Lecture Title |
|---------------|----------------------------------|--|
| 8:30-10:00am | Paul Reier | Translational Research |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Kim Anderson | Cervical injuries and methods to assess recovery of function |
| 12:00-1pm | Naomi Kleitman | Lunch • Introduction to NIH/NINDS |
| 1:00 - 6:00pm | Core Instructors | Mouse • Crush |
| Day 11 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Ron Kim | Human Spinal Cord Pathology |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Lynne Weaver | Autonomic Dysreflexia following SCI: a rodent model |
| 12:00-1pm | Guests | Lunch with several individuals who have spinal cord injuries |
| 1:00 -6:00pm | Lynne Weaver Core Instructors | Mouse • Contusion Rat • Cardiac Cannulation for Autonomic Dysreflexia model |
| Day 12 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Claire Hulsebosch | Functional and Dysfunctional Plasticity after Spinal Cord Injury: Pain |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Leif Havton | Assessment of the Rodent Lower Urinary Tract Following Spinal Cord Injury |
| 12:00-1:30pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 1:30-6:00pm | Lynne Weaver Core Instructors | Mouse • Hemisection, dorsal and lateral Rat • Autonomic Dysreflexia demonstration |

Example Syllabus SCI Research Techniques Course

| Day 13 | Discussion Leader | Course Event / Lecture Title |
|----------------|--------------------------|---|
| 8:30-10:00am | Aileen Anderson | Neural derived stem cells therapies for SCI |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Phil Horner | The adult neural stem cell and post-traumatic gliogenesis: Friend or foe? |
| 12:00-2:30pm | Kathy Steward | Lunch • Living with SCI |
| 2:300 - 6:00pm | Core Instructors | Rat • Tract tracing and perfusions • BBB |
| Day 14 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Marie Filbin | Overcoming inhibitors in myelin to promote axonal regeneration in vivo |
| 10:00-10:30am | | Break |
| 10:30-12:00pm | Doug Kerr | Non-Compressive Myelopathies: Diagnosis, Management and Pathogenesis |
| 12:00-2pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00 - 6:00pm | Core Instructors | • Open: Demos, Alternative behavioral tests, practice • Perfusions • BBB calibration • Urodynamics |
| Day 15 | Discussion Leader | Course Event / Lecture Title |
| 8:30-10:00am | Mark Tuszynski | Axonal bridging beyond sites of SCI: Combinatorial approaches |
| 10:00-10:30am | | Break |
| 10:30-12:00 | Michael Fehlings | Neuroprotection of the injured spinal cord: from bench to bedside |
| 12:00-2:00pm | | Lunch • volleyball / sit in sun / exercise / catch up on reading |
| 2:00 - 5:00pm | Core Instructors | • Open: Demos, Alternative behavioral tests, practice |
| 5:00 - 9:00pm | | End of Course Party!! |