

# SEPTEMBER

## TENTATIVE PLAN

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					<i>1</i>	<i>2</i>
<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i> Section 0.1 Sets, containment, intersection, union	<i>9</i>
<i>10</i>	<i>11</i> Section 0.1 and 0.2 Complements, indexed families of sets De Morgan's Laws, ordered pairs, Cartesian product, relations and functions	<i>12</i>	<i>13</i> Section 0.2 Converse relations, composition of relations and functions	<i>14</i>	<i>15</i> Section 0.3 Well-ordering principle and mathematical induction	<i>16</i>
<i>17</i>	<i>18</i> Section 0.3 Well-ordering and induction continued <b>Assignment 1 due</b>	<i>19</i>	<i>20</i> Section 0.4 Equivalent and countable set	<i>21</i>	<i>22</i> Section 0.4 Equivalent and countable sets	<i>23</i>
<i>24</i>	<i>25</i> Section 0.5 Begin Axioms of real numbers <b>Quiz 1 in tutorial</b>	<i>26</i>	<i>27</i> Section 0.5 Axioms of real numbers, lower and upper bounds, Archimedean property	<i>28</i>	<i>29</i> Section 0.5 Density of rationals and irrationals, existence of square roots, triangle inequality	<i>30</i>

# OCTOBER

## TENTATIVE PLAN

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 Section 1.1 Definition of sequences and convergence, open neighbourhoods <b>Assignment 2 due</b>	3	4 Section 1.1 Uniqueness of limits of sequences, boundedness and divergent sequences	5	6 Fall break	7
8	9 Thanksgiving	10	11 Section 1.2 Definition of Cauchy sequences, convergent sequences are Cauchy, accumulation points	12	13 Test 1	14
15	16 Section 1.2 Bolzano-Weierstrass, Cauchy sequences are convergent <b>Quiz 2 in tutorial</b>	17	18 Section 1.3 Arithmetic operations on sequences	19	20 Section 1.3 Examples of sequences, inequalities of sequences (e.g. $a_n \leq b_n$ for all $n$ )	21
22	23 Section 1.4 Subsequences <b>Assignment 3 due</b>	24	25 Section 1.4 Monotone sequences	26	27 Projects 0.1 and 1.4 Uncountability of real numbers via sequences	28
29	30 Section 2.1 Definition of the limit of a function <b>Quiz 3 in tutorial</b>	31				

# NOVEMBER

## TENTATIVE PLAN

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 Section 2.1 Examples of limits of functions	2	3 Section 2.2 Limits of functions and sequences	4
5	6 Section 2.2 Limits of functions and sequences	7	8 Section 2.3 Algebra of limits, products where one function is bounded, examples	9	10 Test 2	11
12	13 Remembrance day	14	15 Section 2.4 Definition of monotone functions, preparatory lemmas <b>Assignment 4 due</b>	16	17 Section 2.4 Limits of monotone functions exist everywhere except on a countable set	18
19	20 Section 3.1 Continuity at a point <b>Quiz 4 in tutorial</b>	21	22 Section 3.2 Examples $R^2 \rightarrow R$ , algebra of continuous functions	23	24 Section 3.2 Algebra of continuous functions, compositions of continuous functions	25
26	27 Sections 3.3 Definition of uniform continuity, definition of closed, open and compact sets <b>Assignment 5 due</b>	28	29 Section 3.3 Continuous functions on compact sets are uniformly continuous	30		

# DECEMBER

## TENTATIVE PLAN

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					<i>1</i> Section 3.4 Behaviour of continuous functions with respect to open, closed and compact sets	<i>2</i>
<i>3</i>	<i>4</i> Section 3.4 Bolzano's Theorem <b>Quiz 5 in tutorial</b>	<i>5</i>	<i>6</i> Section 3.5 Intermediate Value Theorem	<i>7</i>	<i>8</i> Sections 4.1 and 4.2 Definition of the derivative at a point, derivatives and algebra of derivatives, or possibly review.	<i>9</i>
<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>
<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>	<i>21</i>	<i>22</i>	<i>23</i>
<i>24</i>	<i>25</i>	<i>26</i>	<i>27</i>	<i>28</i>	<i>29</i>	<i>30</i>