# **Lab 2 – Submittal**

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Asa Hayes

1. **(10 pts)** Given NAD27 Lat: 36.05544308 Lon: Lon: -100.58169940

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| **UTM NAD 27 meters** | **UTM NAD 83(1986) meters** |
| N: 3,991,260.257 | N: 3,991,255.259 |
| E: 357,501.574 | E: 357,539.154 |

Distance = Sqrt ((N27- N83)2 + (E27 – E83)2) \_\_\_37.9109008598 \_ meters.

1. **(10 pts)** Using the older topo…

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| **Feature** | **Decimal Degrees** | **Degrees Minutes** | **Degrees Minutes Seconds** |
| *EXAMPLE: Eller O&M Building* | 30.6178o, -96.3367o | 30o 37.068’, -96o 20.203’ | 30o 37’ 4”, -96o 20’ 12” |
| Texas A&M golf course building | 30.6165°, -96.3337° | 30° 36.99’, -96° 20.022’ | 30° 36' 59", -96° 20' 1" |
| Lake Placid @  North center dam release | 30.5930°, -96.2584° | 30° 35.58’, -96° 15.504‘ | 30° 35' 34", -96° 15' 30" |
| Easterwood Airport main terminal building | 30.5911°, -96.3589° | 30° 35.466’, -96° 21.534‘ | 30° 35' 27", -96° 21' 32" |
| Jack K. Williams Administration Building | 30.6184°, -96.3361° | 30° 37.104’, -96° 20.166’ | 30° 37' 6", -96° 20' 9" |

1. **(10pts)** Using coordinate conversion…

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| **Feature** | **NAD 27 fts** | **NAD 83 (2011) fts** |
| Texas A&M golf course building | N 368,055.140  E 3,257,840.782 | N 10,210,635.613  E 3,554,318.631 |
| Lake Placid @  North center dam release | N 360,373.964  E 3,281,824.306 | N 10,202,954.285  E 3,578,302.305 |
| Easterwood Airport main terminal building | N 358,539.643  E 3,250,249.004 | N 10,201,120.143  E 3,546,726.781 |
| Jack K. Williams Administration Building | N 368,718.547  E 3,257,061.509 | N 10,211,299.027  E 3,553,539.351 |

1. **(5pts)** Search for a well…

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| **NAD 27 fts** | **NAD 83(1986) fts** |
| N: 731,064.465 | N: 4,011,930.745 |
| E: 2,246,337.700 | E: 902,373.879 |

1. **(5pts)** NAD83 parameters never change…

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| **NAD83 DMS.SSSS** | **NAD83 State Plane TxSC FTS** | **NAD83 (2011) State Plane TxSC FTS** |
| **Lat:** **N360020.77200** | **N:** **4,011,930.425** | **N:** **4,011,916.957** |
| **Lon:** **W1004001.80480** | **E:** **902,373.271** | **E:** **902,497.611** |

1. **(10pts)** Review and Search the Natural Resources Code for State of Texas. <https://statutes.capitol.texas.gov/Docs/SDocs/NATURALRESOURCESCODE.pdf>

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| **Zone** |  | **NAD83 (m)** | **NAD 27 (ft)** |
| Texas North | Std Parallels:  34° 39'\_\_\_\_  36° 11' \_\_\_  Central Meridian  Lat: 34° 00' \_  Lon: -101°30' | x: 200,000 \_\_  y: 1,000,000 \_\_ | x: 2,000,000 \_\_  y: 0 \_\_\_\_\_\_\_\_\_\_\_ |
| Texas North Central  Note: 2 Central Meridians are listed for this zone, only NAD27 meridian shown for brevity | Std Parallels:  32° 08' 33° 58'  Central Meridian  Lat: 31° 40'  Lon: -97° 30' | x: 600,000  y: 2,000,000 | x: 2,000,000  y: 0 |
| Texas Central | Std Parallels:  30° 07' 31° 53'  Central Meridian  Lat: 29° 40'  Lon: -100°20' | x: 700,000  y: 3,000,000 | x: 2,000,000  y: 0 |
| Texas South Central | Std Parallels:  28° 23' 30° 17'  Central Meridian  Lat: 27° 50'  Lon: -99° 00' | x: 600,000  y: 4,000,000 | x: 2,000,000  y: 0 |
| Texas South | Std Parallels:  26° 10' 27° 50'  Central Meridian  Lat: 25° 40'  Lon: -98°30' | x: 300,000  y: 5,000,000 | x: 2,000,000  y: 0 |