

Mec E 468 Numerical Simulation in Mechanical Engineering Design

AUTOMARK REPORT

Semester: Win 2022

Instructor: Prof. David S. Nobes

Student Name:

Assignment: Assignment No 1

PROCESSING DATE: June 30, 2022

AUTOMark Assessment Grade: 683 out of 727

AUTOMark Recommended Grade: 94 out of 100

NOTE: This grade is preliminary only and needs to be confirmed.

The following pages include each of the drawings in the following order:

- Your submission
- Your submission marked by AutoMARK
- The solution

Other important points:

- Examples are given on eClass of how to interpret the mark-up symbols used by AUTOMark.
- If you have any questions, discuss with your TA in the next lab time.

DRAWING CREATION DATE: 28-Sep-2010 08:59:34

DRAWING LAST SAVE DATE: 30-Jun-2022 10:48:09

MODEL CREATION DATE: 23-Sep-2010 11:25:48

MODEL LAST SAVE DATE: 30-Jun-2022 10:48:09

AutoMARK details:

- Sheetnames should contain only alphabetical characters
- Weights of feature properties are set by the marker
- AutoMARK v 4.0 software written and designed by Owen Stadlwieser

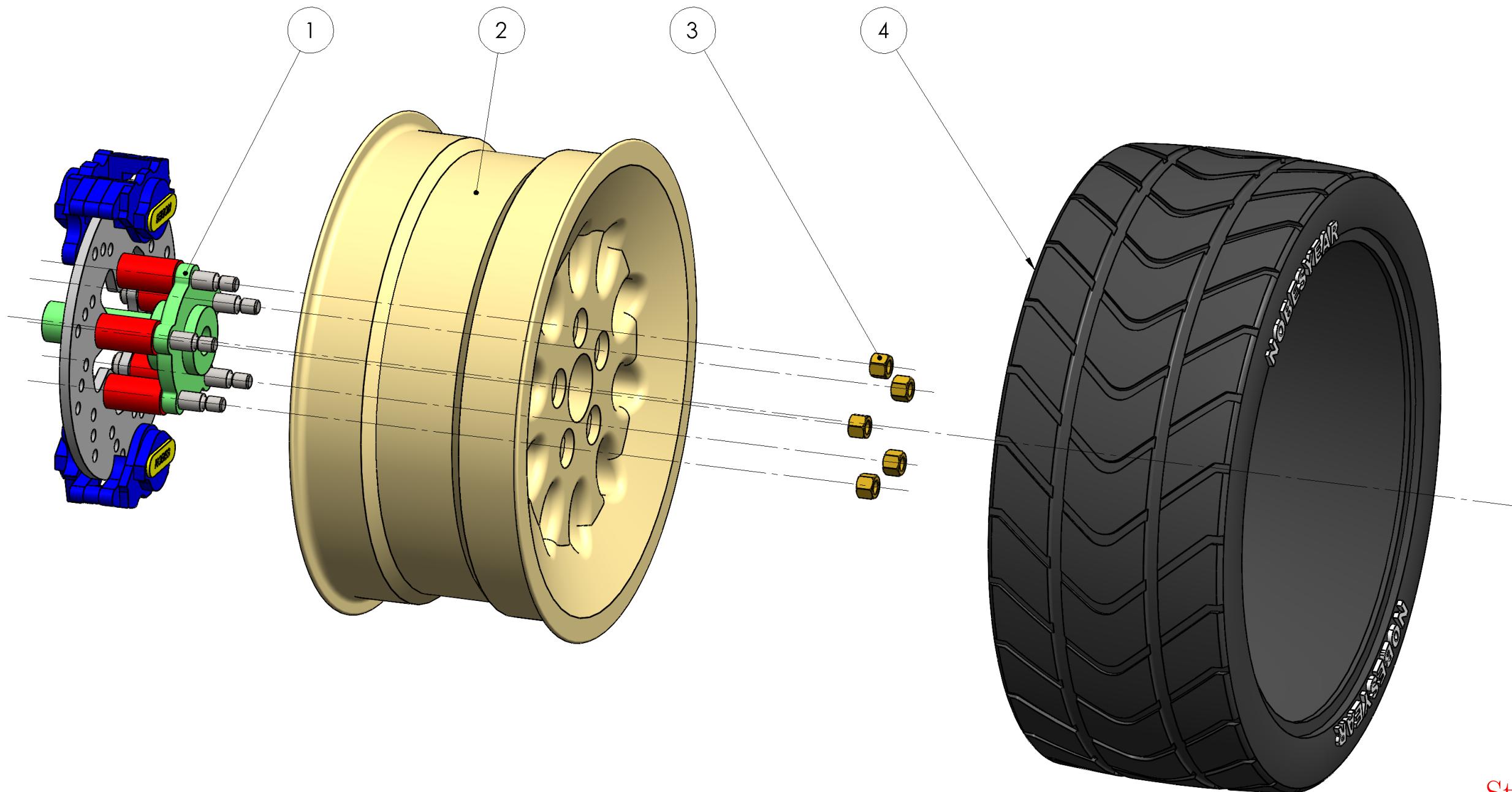
AutoMARK Criterion (The weights of these criterion are decided by the marker):

- DRAWING: SheetOrder, ExtraSheets
- SHEET: SheetPaperSize, SheetScale, SheetTemplate, SheetExtraBOMS, SheetExtraViews, SheetViewTypes, SheetIntersectingBalloons
- BILLOFMATERIALS: BOMTableType, BOMNumberColumns, BOMNumberRows, BOMPosition, BOMTableHeight, BOMTableWidth, BOMFontType, BOMFontSize
- VIEW: ViewScale, ViewDisplayStyle, ViewExtraDimension, ViewPosition, ViewExtraCenterMarks, ViewMass, ViewMaterial, ViewExtraDatums, ViewWrongProjection, ViewExtraCenterlines
- DIMENSION: DimensionDangling, DimensionWrongView, DimensionPosition, DimensionArrowSide, DimensionValue, DimensionBadText
- CENTERLINE: CenterlineDangling, CenterlinePosition
- CENTERMARK: CentermarkDangling, CentermarkPosition, CentermarkShowlines, CentermarkAngle, CentermarkConnectionLines, CentermarkExtensions, CentermarkGap, CentermarkSize, CentermarkGroupedCorrectly
- DATUM: DatumDangling, DatumWrongView, DatumPosition, DatumLabel, DatumDisplayStyle, DatumFilledTriangle
- Balloon: BalloonDangling, BalloonPosition

<i>Symbol/Colour</i>	<i>Meaning</i>
✓	No deductions on feature
Colour	Incorrect value
Colour	Miscellaneous error
Colour	Incorrect Position
Colour	Unrecognized feature
Colour	Missing feature
?	Feature not found on key

8 7 6 5 4 3 2 1

ITEM NO.	SW-File Name(File Name)	SW-Title(Title)	Material	SW-Author(Author)	QTY.
1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
2	dsn_Rim	Custom Low Speed Snow Rim	Pure Gold	D.S.Nobes	1
3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
4	MecE_265_Tire	Snow Plow Car Tire	Rubber	D.S. Nobes	1



Student Submission

The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

TITLE:

Hub, Rim, Tire
Assembly

MecE 265	UNLESS OTHERWISE SPECIFIED:	DRAWN BY:
Instructor: Dr DS Nobes Fall 2021	DIMENSIONS ARE IN MM	David S. Nobes
Comments:	TOLERANCES: ANGULAR: $\pm 0.5^\circ$	
	LINEAR X = ± 0.5 XX = ± 0.1 XXX = ± 0.025	
	SURFACE FINISH $0.6 \mu\text{m}$	
	DO NOT SCALE DRAWING	
MATERIAL: Various		
FILE NAME: MecE265_Car_Hub_Rim_Tire		

zacha
June 30, 2022 10:48:09 AM
September 23, 2010 11:25:48 AM

SCALE: 1:4 Mass: 175308.62 SHEET 1 OF 3

SIZE **B** Assignment Number **Assignment 03** REV **2**

8

7

6

5

4

3

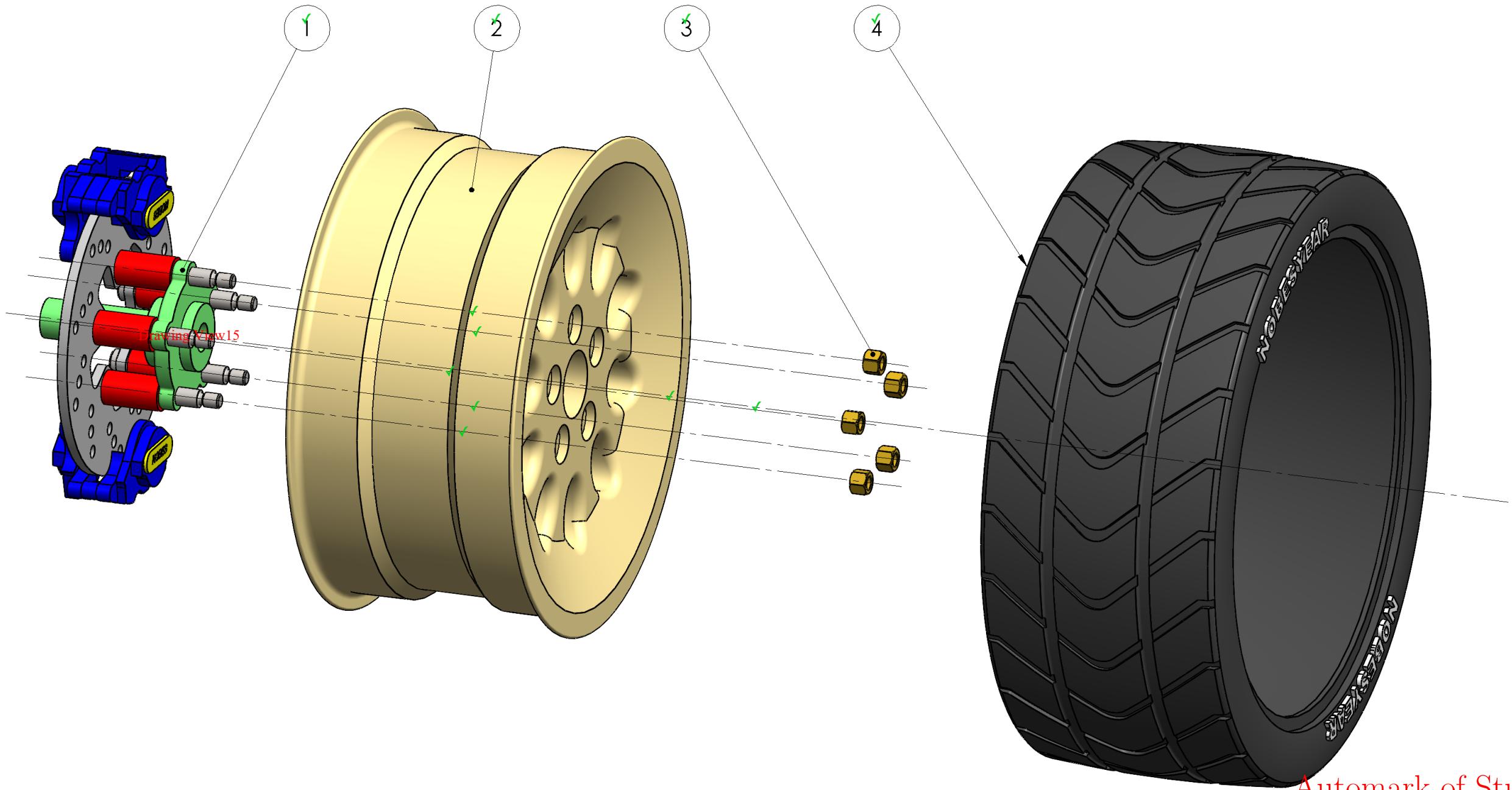
2

Snapped to Corner

Drawing View15: 48/48
DetailItem439: 38/40
SHEET TOTAL: 135/137

Correct Height
Incorrect Font
Incorrect Font Size
Correct Column Order
Correct Content

ITEM NO.	SW-File Name(File Name)	SW-Title(Title)	Material	SW-Author(Author)	QTY.
1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
2	dsn_Rim	Custom Low Profile Snow Rim	Pure Gold	D.S.Nobes	1
3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
4	MecE_265_Tire	Snow Plow Car Tire	Rubber	D.S. Nobes	1



Automark of Student Submission

Correct Tangent Line style
Correct Scale
Correct Display style

MecE 265	UNLESS OTHERWISE SPECIFIED:
Instructor: Dr DS Nobes Fall 2021	DRAWN BY: David S. Nobes
Comments:	Lab Day ALL
	SM By D.S.Nobes
	TA Initials DSN
	zacha June 30, 2022 10:48:09 AM September 23, 2010 11:25:48 AM
MATERIAL: Various	SURFACE FINISH: $0.6 \mu\text{m}$
FILE NAME: MecE265_Car_Hub_Rim_Tire	DO NOT SCALE DRAWING

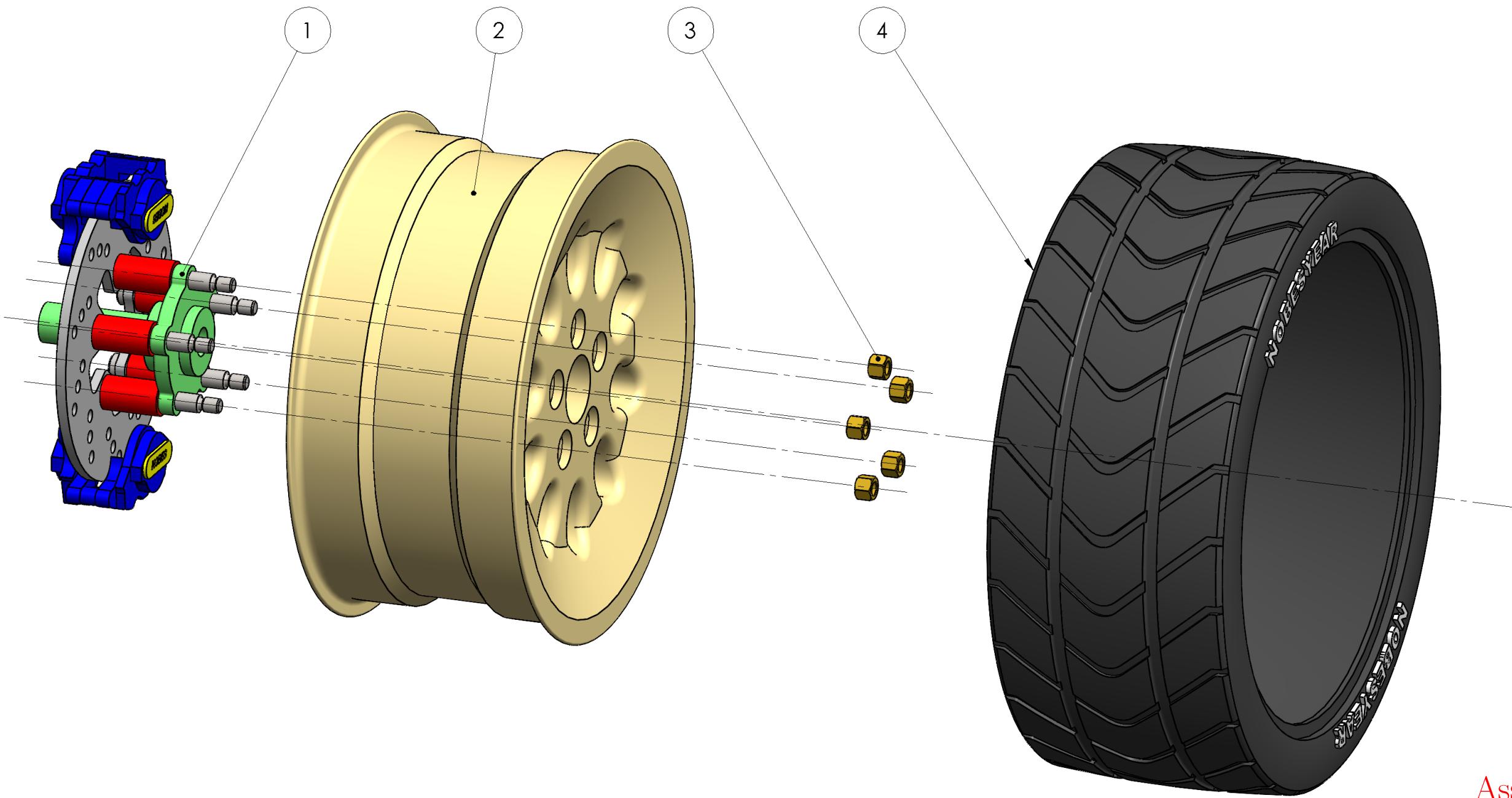
The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

TITLE:
**Hub, Rim, Tire
Assembly**

SIZE B	Assignment Number Assignment 03	REV 2
SCALE: 1:4	Mass: 175308.62	SHEET 1 OF 3

8 7 6 5 4 3 2 1

ITEM NO.	SW-File Name(File Name)	SW-Title(Title)	Material	SW-Author(Author)	QTY.
1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
2	dsn_Rim	Custom Low Speed Snow Rim	Pure Gold	D.S.Nobes	1
3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
4	MecE_265_Tire	Snow Plow Car Tire	Rubber	D.S. Nobes	1



Assignment Solution

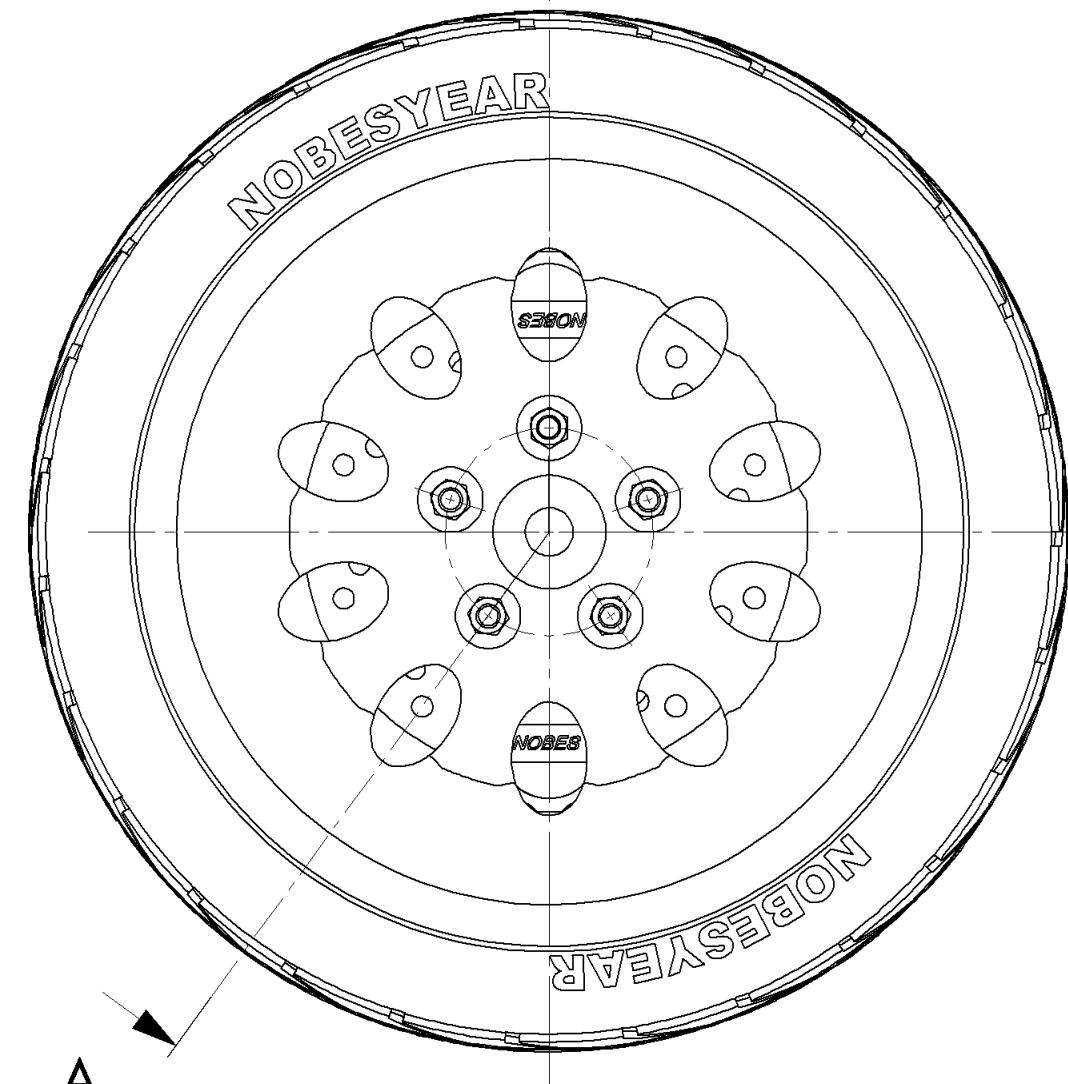
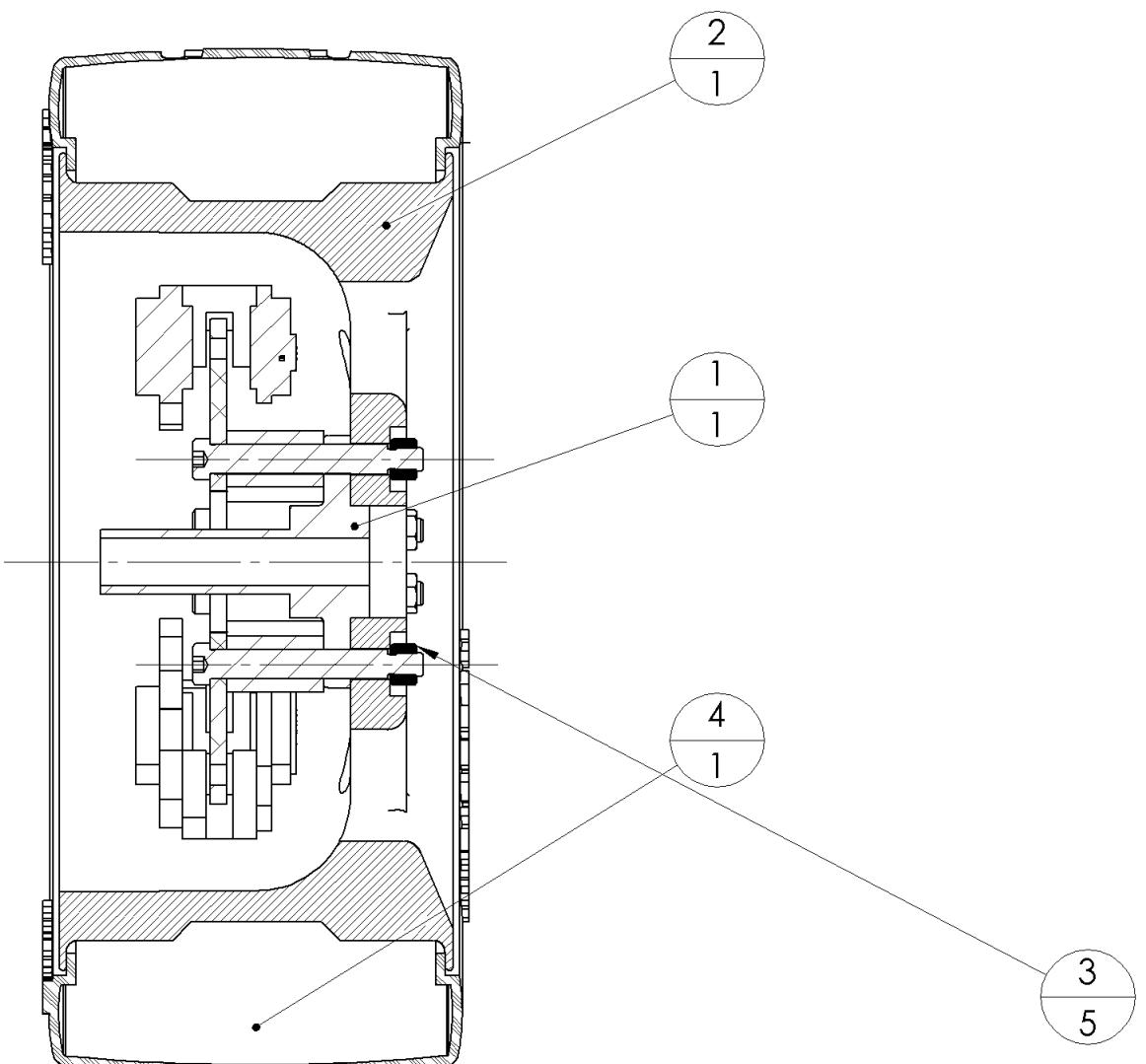
MecE 265	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM TOLERANCES: ANGULAR: $\pm 0.5^\circ$ LINEAR $X = \pm 0.5$ $X.X = \pm 0.1$ $XXX = \pm 0.025$	DRAWN BY: David S. Nobes
Instructor: Dr DS Nobes Fall 2021	Comments:	Lab Day ALL
		SM By D.S.Nobes
	SURFACE FINISH $0.6 \mu\text{m}$	TA Initials DSN
	DO NOT SCALE DRAWING	zacha September 28, 2021 2:35:53 PM September 23, 2010 11:25:48 AM
MATERIAL: Various	FILE NAME: MecE265_Car_Hub_Rim_Tire	SIZE B Assignment Number Assignment 03 REV 2
SCALE: 1:4 Mass: 175308.62 SHEET 1 OF 3		

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TITLE:
**Hub, Rim, Tire
Assembly**

ITEM NO.	SW-File Name(File Name)	SW-Title>Title)	Material	SW-Author(Author)	QTY.
1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
2	dsn_Rim	Custom Low Speed Snow Rim	Pure Gold	D.S.Nobes	1
3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
4	MecE_265_Tire	Snow Plow Cartire	Rubber	D.S. Nobes	1

SECTION A-A



A

Student Submission

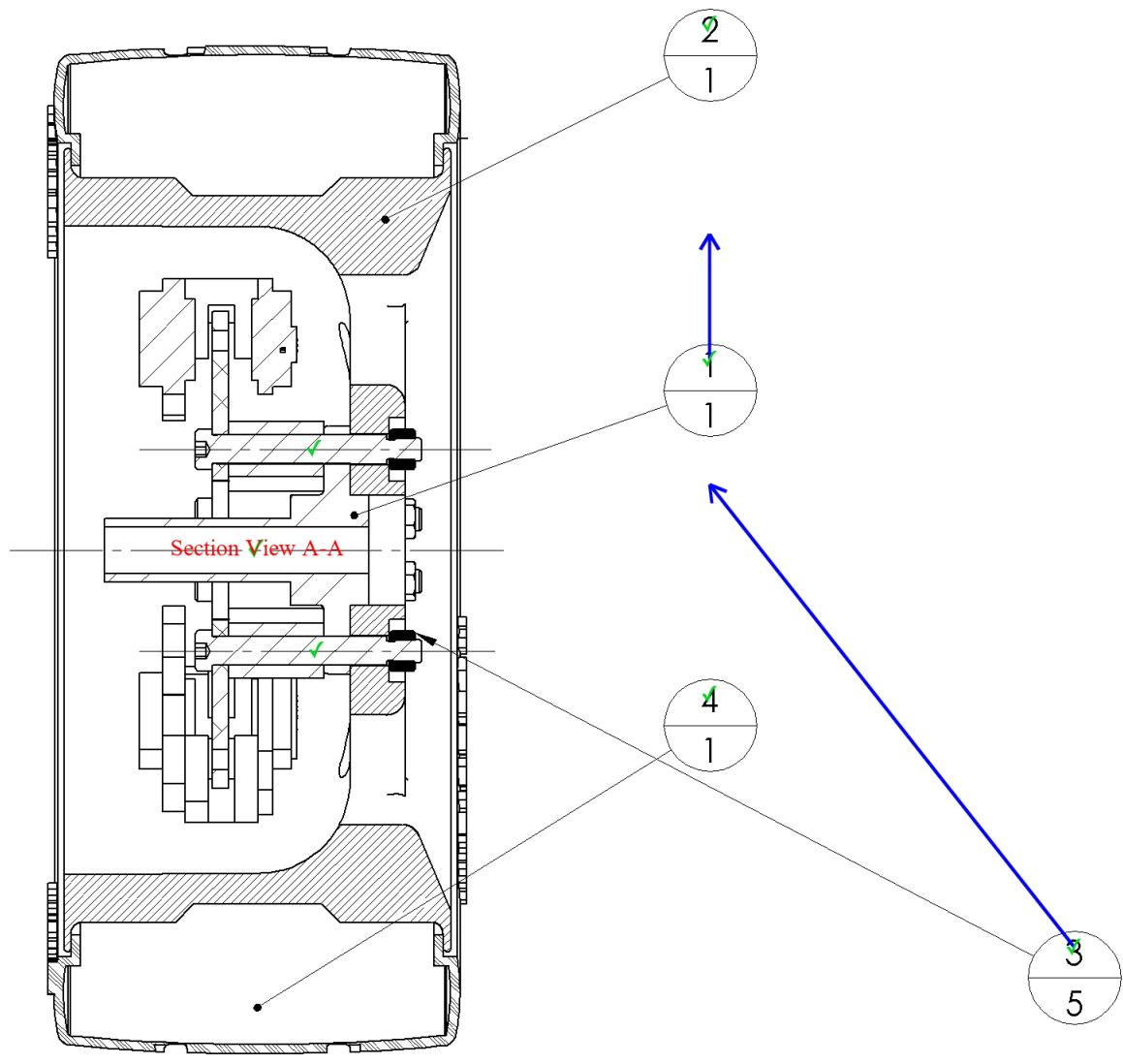
MecE 265		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM TOLERANCES: ANGULAR: $\pm 0.5^\circ$ LINEAR $X = \pm 0.5$ $X.X = \pm 0.1$ $XXX = \pm 0.025$	DRAWN BY: David S. Nobes
Instructor: Dr DS Nobes Fall 2021	Comments:	Lab Day ALL	
		SM By D.S.Nobes	
		TA Initials DSN	
		zacha June 30, 2022 10:48:09 AM September 23, 2010 11:25:48 AM	
MATERIAL: Various		DO NOT SCALE DRAWING 0.6 μm	
FILE NAME: MecE265_Car_Hub_Rim_Tire			
SIZE B		Assignment Number Assignment 03	
		REV 2	
SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3			

8 7 6 5 4 3 2 1

Drawing View1: 50/57
Section View A-A: 39/39
DetailItem493: 28/40
SHEET TOTAL: 166/185

Correct Height	ITEM NO.	SW-File Name(File Name)	SW-Title(Title)	Material	SW-Author(Author)	QTY.
Incorrect Font	1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
Incorrect Font Size	2	dsn_Rim	Custom Low Speed Snow Rim	Pure Gold	D.S.Nobes	1
Correct Column Order	3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
Correct Content	4	MecE_265_Tire	Snow Plow Car tire	Rubber	D.S. Nobes	1

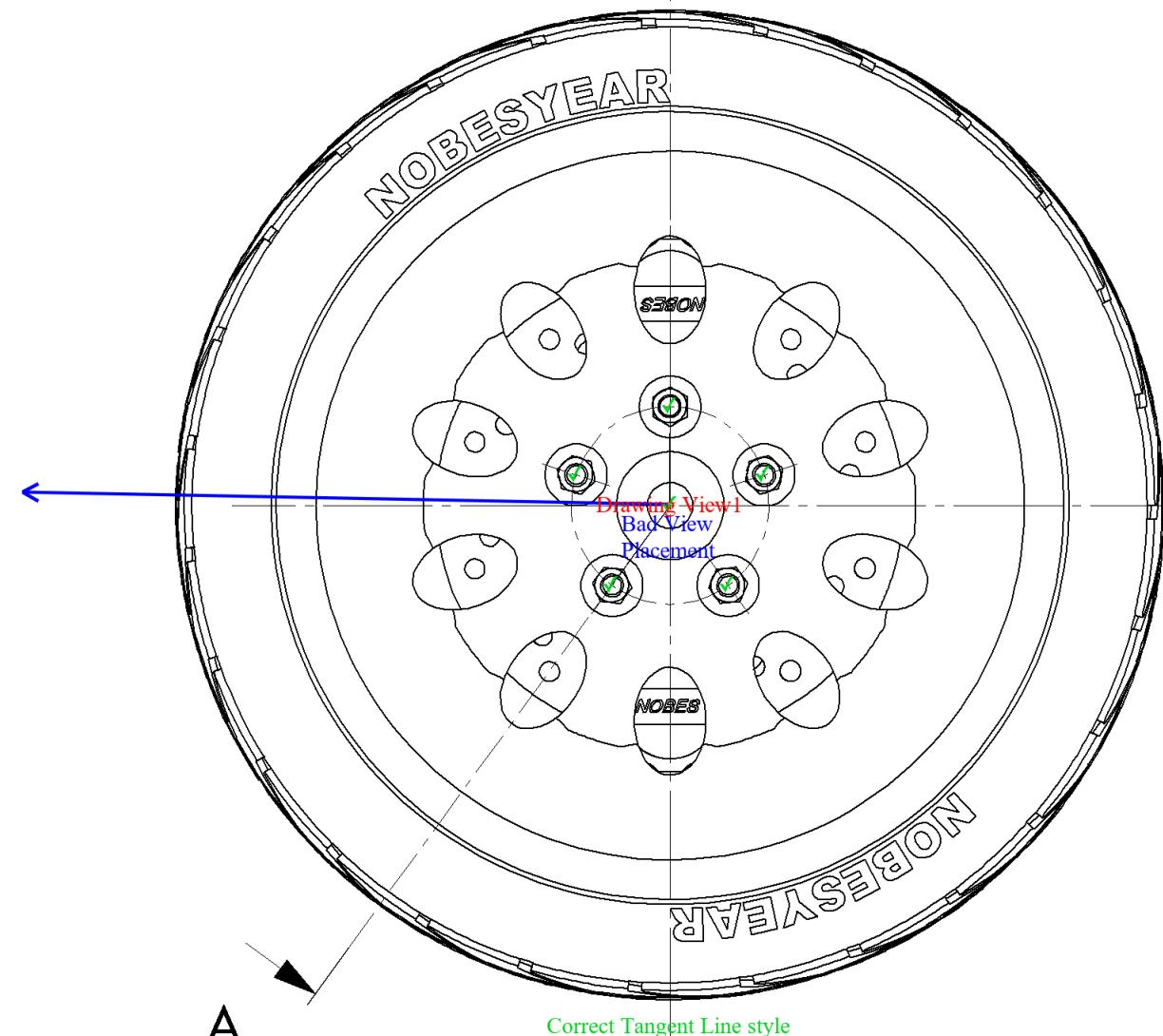
SECTION A-A



Correct Tangent Line style

Correct Scale

Correct Display style



Correct Tangent Line style

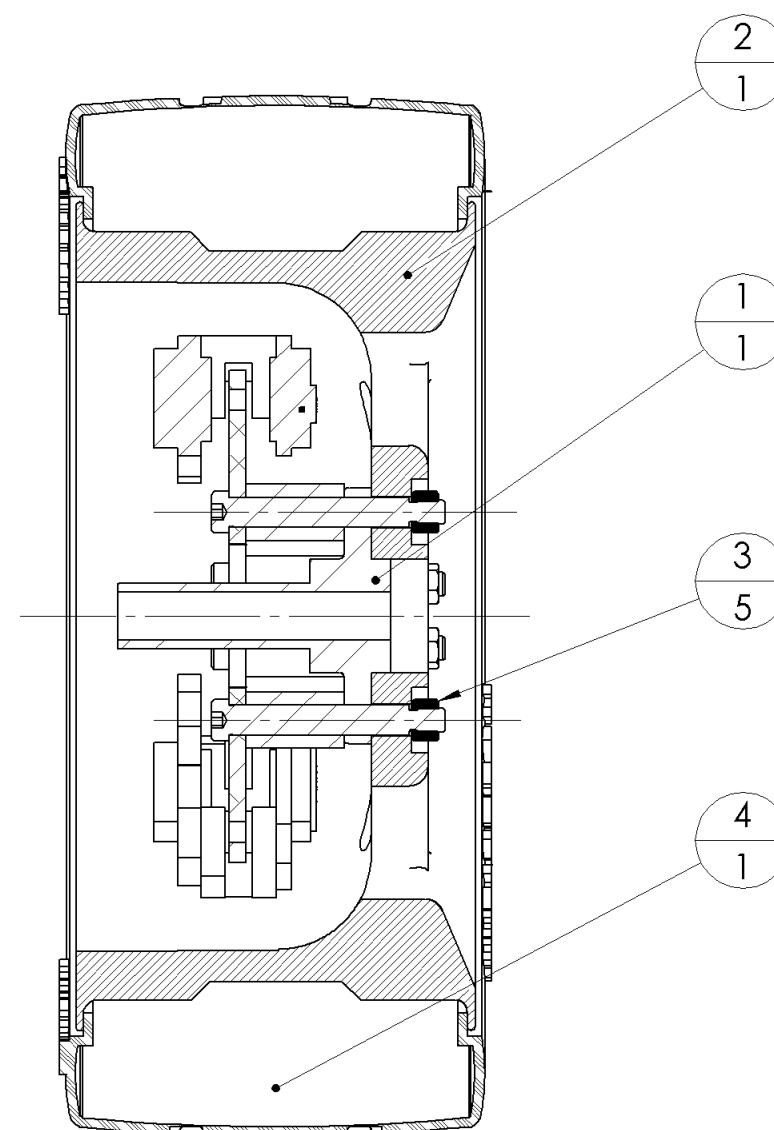
Correct Scale

Correct Display style

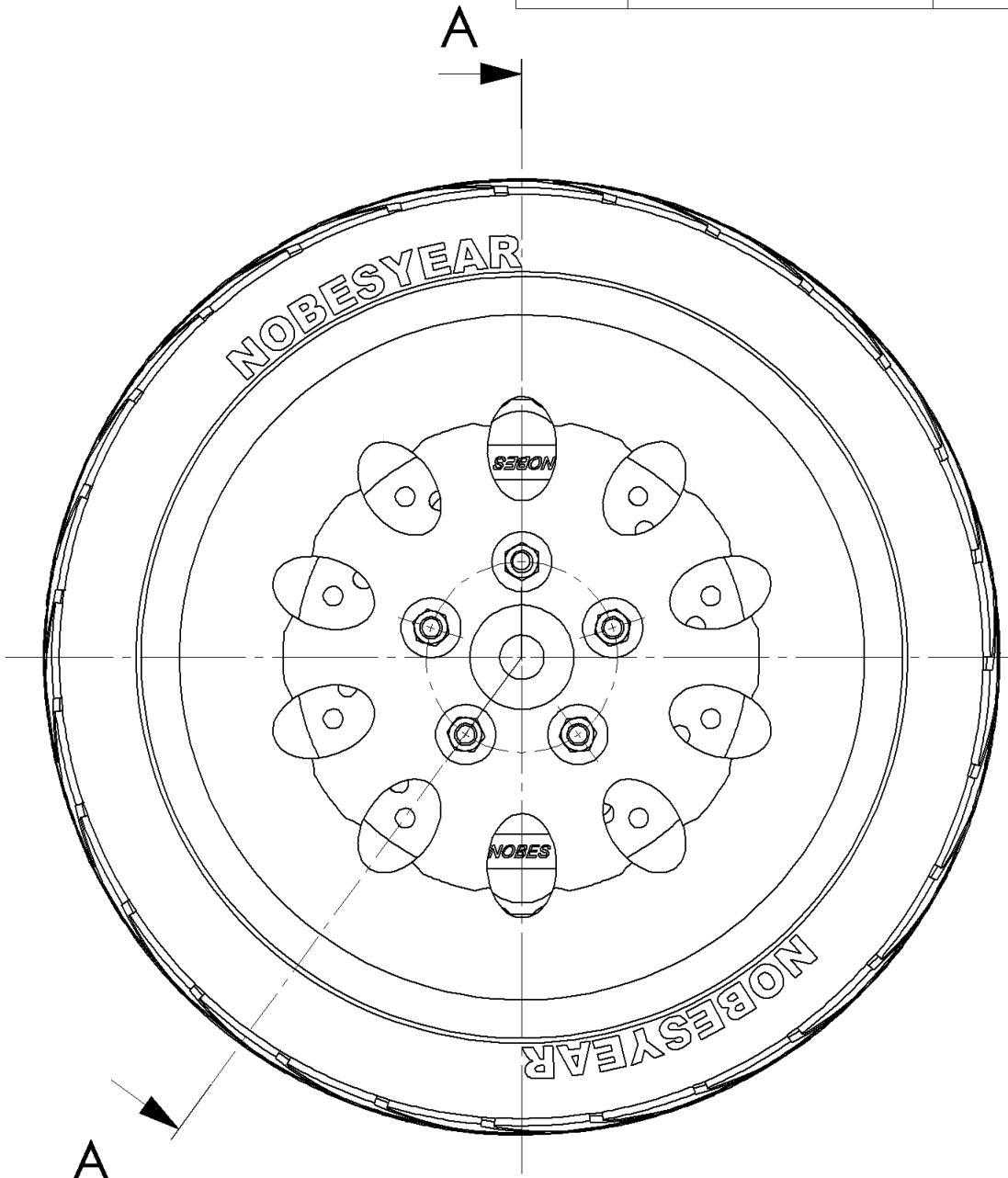
Automark of Student Submission

MecE 265		UNLESS OTHERWISE SPECIFIED:	DRAWN BY:		The Department of Mechanical Engineering
Instructor: Dr DS Nobes Fall 2021		DIMENSIONS ARE IN MM	David S. Nobes		UNIVERSITY OF ALBERTA
Comments:		TOLERANCES: ANGULAR: $\pm 0.5^\circ$	Lab Day ALL		
		LINEAR X = ± 0.5 X.X = ± 0.1 XXX = ± 0.025	SM By D.S.Nobes		
		SURFACE FINISH $0.6 \mu\text{m}$	TA Initials DSN		
		DO NOT SCALE DRAWING	zacha June 30, 2022 10:48:09 AM September 23, 2010 11:25:48 AM		
MATERIAL: Various		Assignment Number Assignment 03			REV 2
FILE NAME: MecE265_Car_Hub_Rim_Tire		SCALE: 1:4 Mass: 175308.62			SHEET 2 OF 3

ITEM NO.	SW-File Name(File Name)	SW-Title(Title)	Material	SW-Author(Author)	QTY.
1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
2	dsn_Rim	Custom Low Speed Snow Rim	Pure Gold	D.S.Nobes	1
3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
4	MecE_265_Tire	Snow Plow Car Tire	Rubber	D.S. Nobes	1



SECTION A-A



MecE 265		UNLESS OTHERWISE SPECIFIED:
Instructor:	Dr DS Nobes	DIMENSIONS ARE IN MM
	Fall 2021	TOLERANCES:
Comments:		ANGULAR: $\pm 0.5^\circ$
		LINEAR X = ± 0.5 XX = ± 0.1 XXX = ± 0.025
		SURFACE FINISH $0.6 \mu\text{m}$
DO NOT SCALE DRAWING		
MATERIAL: Various		
FILE NAME: MecE265_Car_Hub_Rim_Tire		

DRAWN BY:
David S. Nobes
Lab Day ALL
SM By D.S.Nobes
TA Initials DSN

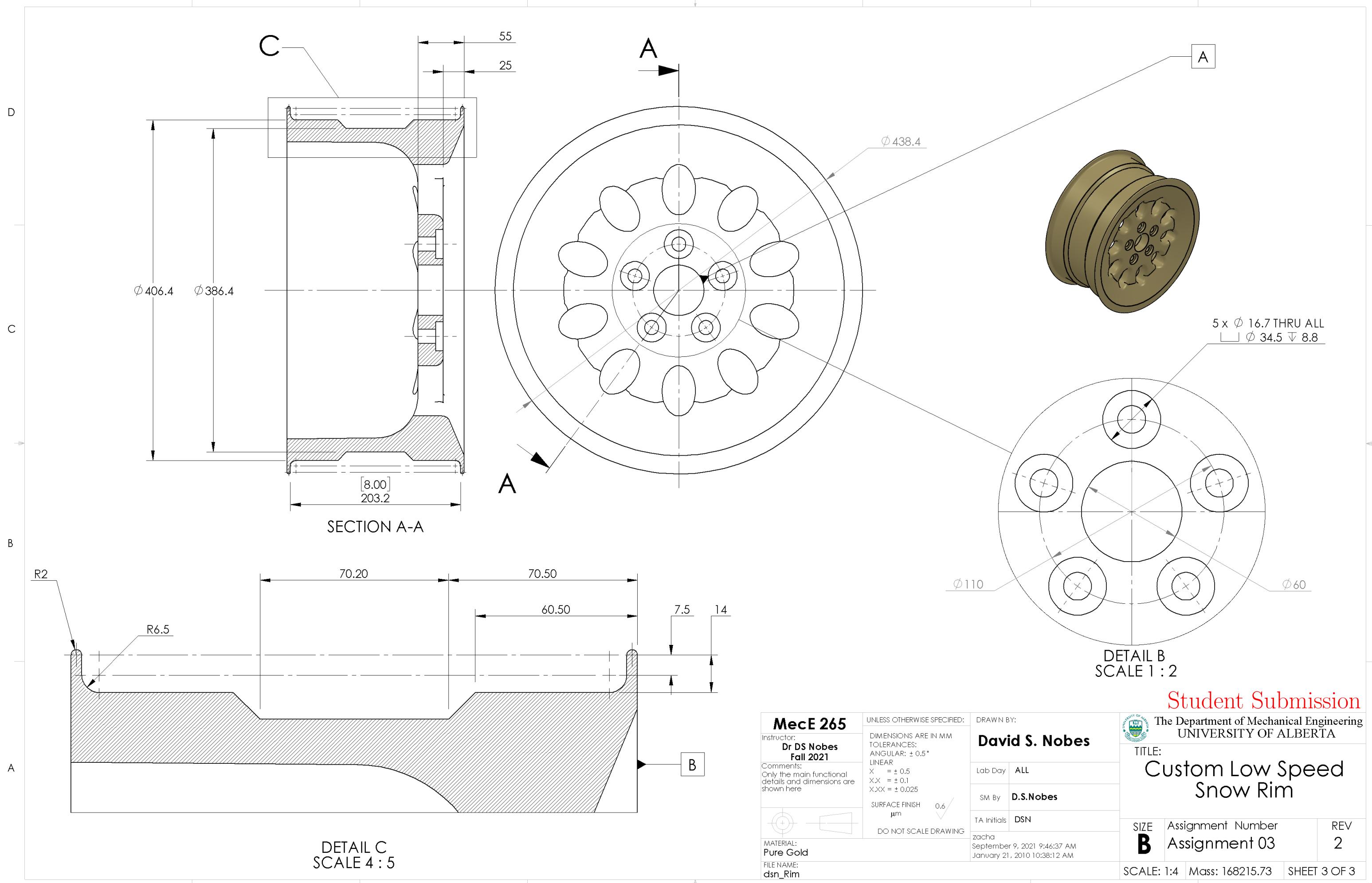
The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

TITLE:
**Hub, Rim, Tire
Assembly**

SIZE **B** Assignment Number **Assignment 03** REV **2**
SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3

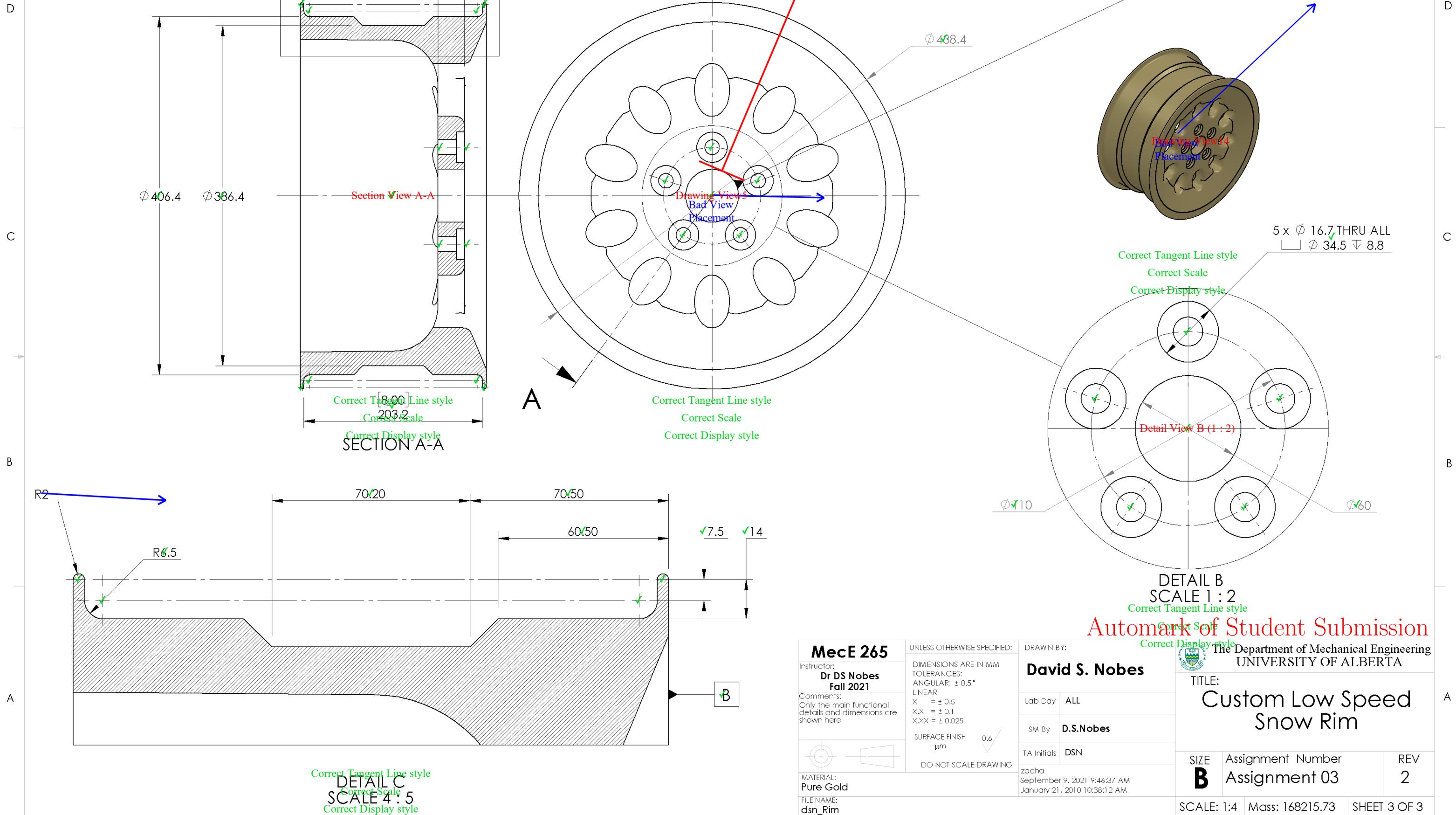
zacha
September 28, 2021 2:35:53 PM
September 23, 2010 11:25:48 AM

8 7 6 5 4 3 2 1



8 7 6 5 4 3 2 1

Drawing View5: 50/62
Detail View B (1 : 2): 67/69
Drawing View14: 16/22
Section View A-A: 102/102
Detail View C (4 : 5): 81/84
SHEET TOTAL: 365/388



MecE 265

Instructor:
Dr DS Nobes
Fall 2021

Comments:
Only the main functional details and dimensions are shown here

DO NOT SCALE DRAWING

0.6

SURFACE FINISH μm

MATERIAL: Pure Gold

FILE NAME: dsn_Rim

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MM
TOLERANCES:
ANGULAR: $\pm 0.5^\circ$
LINEAR
 $X = \pm 0.5$
 $X.X = \pm 0.1$
 $XXX = \pm 0.025$

DO NOT SCALE DRAWING

DRAWN BY:

David S. Nobes

Lab Day ALL

SM By D.S.Nobes

TA Initials DSN

zacha
September 9, 2021 9:46:37 AM
January 21, 2010 10:38:12 AM

Automate of Student Submission

Correct Tangent Line style
Correct Scale
Correct Display style
The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

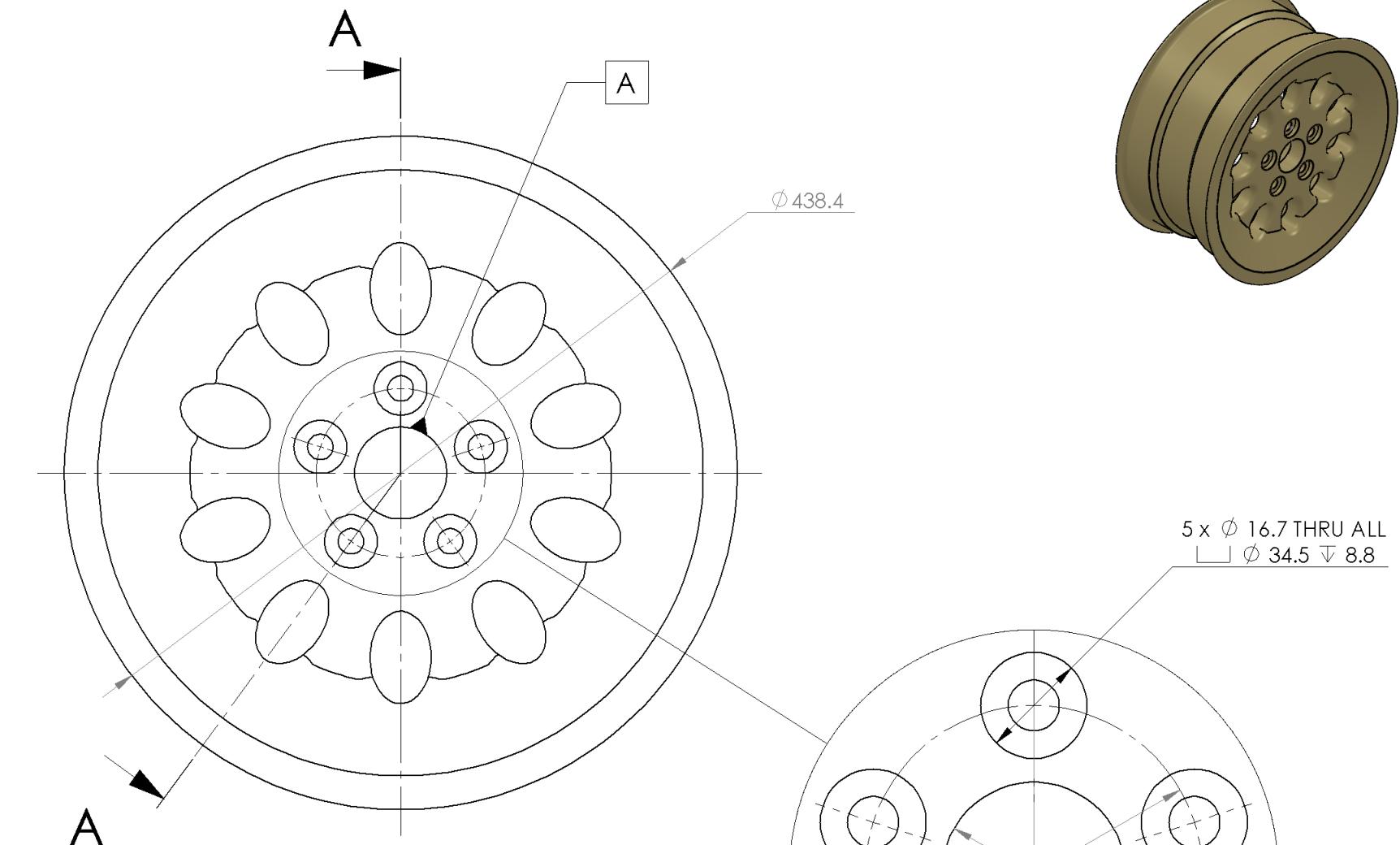
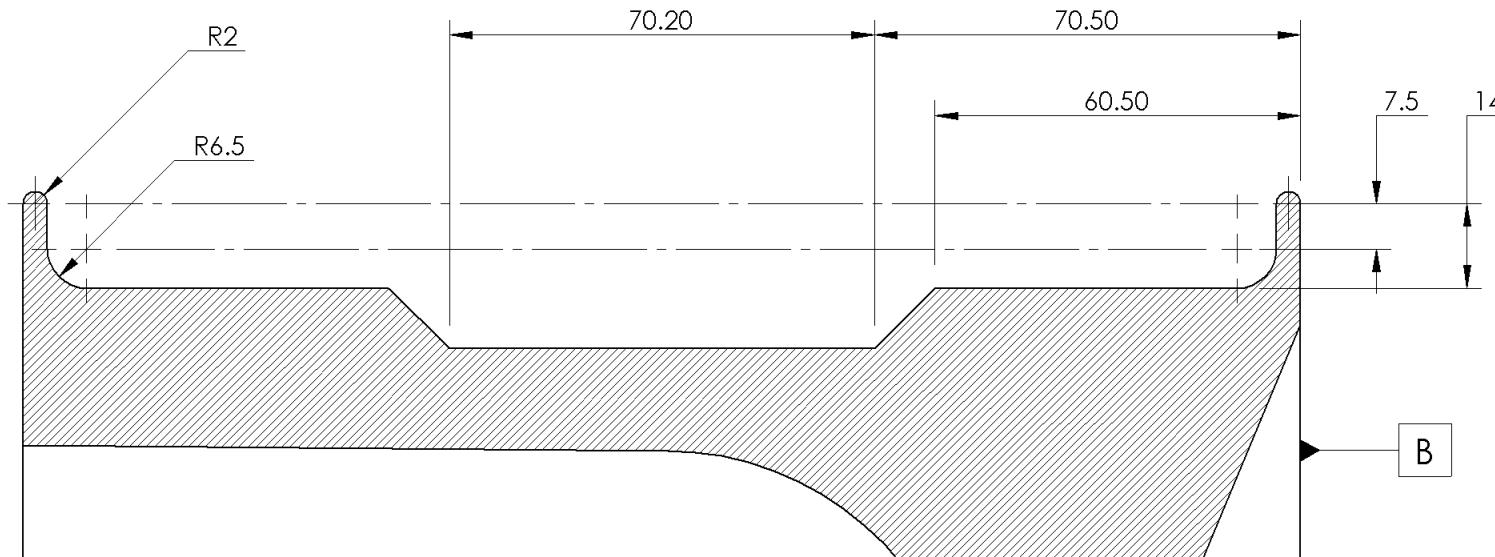
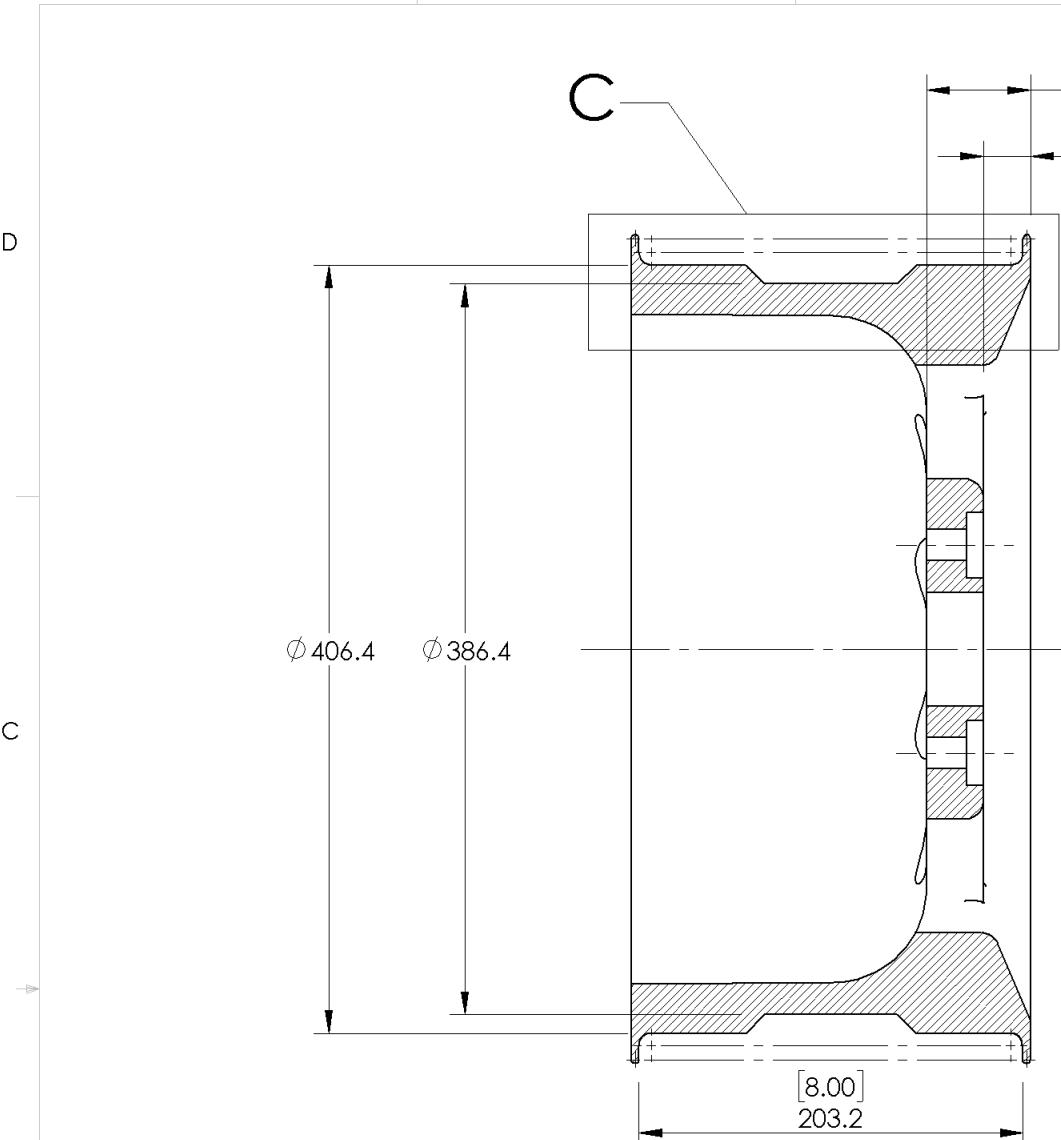
TITLE:

Custom Low Speed
Snow Rim

SIZE B Assignment Number Assignment 03 REV 2

SCALE: 1:4 Mass: 168215.73 SHEET 3 OF 3

8 7 6 5 4 3 2 1



MecE 265
Instructor:
Dr DS Nobes
Fall 2021
Comments:
Only the main functional details and dimensions are shown here

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MM
TOLERANCES:
ANGULAR: $\pm 0.5^\circ$
LINEAR
 $X = \pm 0.5$
 $X.X = \pm 0.1$
 $XXX = \pm 0.025$

SURFACE FINISH
 $0.6 \mu\text{m}$

DO NOT SCALE DRAWING

MATERIAL:
Pure Gold
FILE NAME:
dsn_Rim

DRAWN BY:
David S. Nobes
Lab Day ALL
SM By D.S.Nobes
TA Initials DSN

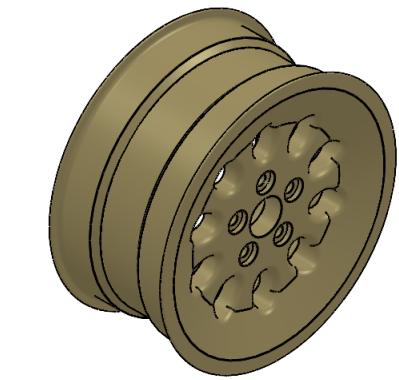
zacha
September 9, 2021 9:46:37 AM
January 21, 2010 10:38:12 AM

The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

TITLE:
Custom Low Speed Snow Rim

SIZE **B** Assignment Number
Assignment 03 REV
2

SCALE: 1:4 Mass: 168215.73 SHEET 3 OF 3



Assignment Solution