FACULTAD DE CIENCIAS FÍSICAS Y MATEMÁTICAS UNIVERSIDAD DE CHILE

PROGRAMA DE CURSO

Código	Nombre			
CI5307	Modelos de localización			
Nombre en Inglés				
Location models				
SCT	Unidades Docentes	Horas de Cátedra	Horas Docencia Auxiliar	Horas de Trabajo Personal
3	5	2,0	3,0	5,0
Requisitos			Carácter del Curso	
CI5306-S			Obligatorio de la Carrera de Ingeniería Civil Transporte (Magíster).	

Resultados de Aprendizaje

El estudiante al término del curso demuestra que:

- Utiliza modelos para analizar mercados de uso del suelo urbano, probar políticas y escenarios.

Metodología Docente	Evaluación General
La estrategia metodológica que se desarrollará en este curso son: 1. Clases expositivas. 2. Clases auxiliares. 3. Taller de modelamiento.	La propuesta de evaluación es de proceso, en donde el estudiante deberá demostrar sus competencias mediante: • 1 Control • 1 Examen • Informe Taller

Unidades Temáticas

Número	Nombre de la Unidad	Duración en Semanas
1	Equilibrio del Uso de Suelo	2 semanas

Contenidos	Resultados de Aprendizajes de la Unidad	Referencias a la Bibliografía
1. Introducción 2. Equilibrio de corto plazo 3. Equilibrio de largo plazo 4. Equilibrio con externalidades 5. Maximización de excedentes 6. Modealmiento de restricciones	El estudiante: • Entiende y analiza el problema de equilibrio del mercado del suelo en ciudades desde su formulación matemática y económica, así como sus propiedades. • Aplica un modelo de equilibrio estocástico de UST, simula proyectos de uso de suelo y analiza sus resultados.	Martínez (2018), Capítulo 5. Bibliografía del capítulo

Número	Nombre de la Unidad	Duración en Semanas
2	Sistema de Uso del suelo y Transporte (UST)	1 semanas

Contenidos	Resultados de Aprendizajes de la Unidad	Referencias a la Bibliografía
1. Introducción 2. El equilibrio intergrado de UST 3. El problema de optimización equivalente: costo plazo 4. El problema de optimización equivalente: largo plazo, sin y con externalidades	El estudiante: • Entiende y analiza la formulación del problema d equilibrio de un sistema intregado de uso del suelo y transporte •Aplica un el equilibrio de UST en un modelo estocástico, simula proyectos urbanos y analiza sus resultados.	Martínez (2018), Capítulo 6. Bibliografía del capítulo

Número	Nombre de la Unidad	Duración en Semanas
3	Sistemas de ciudades	2 semanas

Contenidos	Resultados de Aprendizajes de la Unidad	Referencias a la Bibliografía
1. Introducción 2. Equilibrio de un sistema de ciudades 3. Leyes de escala 4. Teoría unificada	El estudiante: • Conoce y entiende un modelo para un sistema ciudades que ingtegra varios sistemas de UST. • Conoce y entiende la ley universal de escalamiento urbano y la evolución de las ciudades • Simula la evolución de ciudades desde un tamaño pequeño a grande (ej. entre 1 y 30 millones de habitantes).	Martínez (2018), Capítulo 8. Bibliografía del capítulo

Número	Nombre de la Unidad	Duración en Semanas
4	Aplicación y planificación	2 semanas

Contenidos	Resultados de Aprendizajes de la Unidad	Referencias a la Bibliografía
1. Introducción 2. Implementación de un modelo de uso del suelo 3. Estimación de parámetros 4. Planificación óptima de ciudades 5. Análsis de preguntas frecuentes en sistemas urbanos	El estudiante: • Conoce y analiza cómo se aplica un modelo. • Conoce y analiza métodos de planificación basado en objetivos sociales utilizando subsidios y regulaciones. • Analiza preguntas frecuentes y analiza sus respuestas • Simula proyectos urbanos.	Martínez (2018), Capítulo 9 y 10 Bibliografía del capítulo

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Bibliografía General

Libro de referencia:

Martinez, F.J. (2108) Microeconomic Modeling in Urban Science, Elsevier

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