

PROYECTOS DE INNOVACIÓN DOCENTE 2019/2020. Universidad de Valladolid  
 Proyecto: PID 19-20\_089 "Vídeos para apoyo al aprendizaje en las áreas de Ingeniería Química y Tecnologías del Medio Ambiente"

### ANEXO 1 - RELACIÓN DE VÍDEOS ELABORADOS

| Autor                       | Título                          | Duración | Idioma  | Enlace  | Asignatura                 | Curso | Grado/<br>Máster/<br>Otro      | Entregada a<br>alumnos | Usado por<br>varios<br>profesores | Disponible en<br>la red | Valoración de los<br>alumnos                          |
|-----------------------------|---------------------------------|----------|---|---|----------------------------|-------|--------------------------------|------------------------|-----------------------------------|-------------------------|---|
| Fidel Antonio<br>MATO CHAÍN | hi 00 1 Introduction            | 02:52    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> | Integración de<br>Procesos | 4     | Grado<br>Ingeniería<br>Química | SI                     | NO                                | YouTube<br>(Libre)      | Comentarios de buena<br>aceptación en encuesta<br>Uva |
|                             | hi 01 1 Hot&Cold strs           | 04:28    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 01 2 Heat integration        | 04:43    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 01 3 Thermodynamics          | 05:37    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 02 1 Simple project          | 05:38    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 02 2 TvsH diag               | 07:19    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 02 3 Energy targets          | 05:09    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 03 1 Multi stream processes  | 02:07    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 03 2 Composite curves        | 07:16    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 03 3 Minimum heating cooling | 04:56    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 03 4 Pinch threshold         | 07:08    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 04 1 Data extraction         | 03:28    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 04 2 Rules                   | 06:39    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 04 3 Process modification    | 04:55    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 05 1 Heat cascade            | 03:13    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 05 2 PTA GCC                 | 10:41    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 05 3 GCC utilities           | 03:56    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 06 1 Heating&Cooling         | 10:30    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 06 2 Design CC               | 06:10    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
|                             | hi 06 3 Design GCC              | 08:43    | ENG   | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |                            |       |                                |                        |                                   |                         |   |
| hi 06 4 Design common       | 09:03                           | ENG      | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |   |                            |       |                                |                        |                                   |                         |   |
| hi 08 1 Pinch principle     | 04:55                           | ENG      | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |   |                            |       |                                |                        |                                   |                         |   |
| hi 08 2 Grid diagram        | 03:47                           | ENG      | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |   |                            |       |                                |                        |                                   |                         |   |
| hi 08 3 Design method       | 05:27                           | ENG      | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |   |                            |       |                                |                        |                                   |                         |   |
| hi 09 1 Design overview     | 04:06                           | ENG      | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |   |                            |       |                                |                        |                                   |                         |   |
| hi 09 2 Pinch topology      | 06:54                           | ENG      | <a href="https://www.youtube.com/watch?v=...">https://www.youtube.com/watch?v=...</a> |   |                            |       |                                |                        |                                   |                         |   |

|                             |   |       |     |                                       |   |   |                              |               |    |                              |   |
|-----------------------------|---|-------|-----|---------------------------------------|---|---|------------------------------|---------------|----|------------------------------|---|
|                             | hi 09 3 Network completion                          | 06:44 | ENG | <a href="https://www">https://www</a> |   |   |                              |               |    |                              |   |
|                             | hi app exam 23 sol                                  | 05:52 | ENG | <a href="https://www">https://www</a> |   |   |                              |               |    |                              |   |
|                             | proposal 4 1920 sol                                 | 09:09 | ESP | <a href="https://www">https://www</a> |   |   |                              |               |    |                              |   |
|                             | hi 10 1 Minimum to optimum                          | 10:01 | ENG | <a href="https://www">https://www</a> |   |   |                              |               |    |                              |   |
|                             | hi 10 2 Loops paths                                 | 06:43 | ENG | <a href="https://www">https://www</a> |   |   |                              |               |    |                              |   |
|                             | hi 10 3 Downstream paths                            | 04:30 | ENG | <a href="https://www">https://www</a> |   |   |                              |               |    |                              |   |
| Rafael Bartolomé MATO CHAÍN | VIDEO   | 13:45 | ESP | <a href="https://you">https://you</a> | Integración de Procesos                       | 4 | Grado Ingeniería Química     | SI            | NO | YouTube (Libre)              | Comentarios de buena aceptación en encuesta Uva |
|                             | INPRO_INT01_Hierarchy.avi                           | 10:54 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INPRO_INT02_Reactor_1                               | 09:33 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INPRO_INT02_Reactor_2                               | 12:25 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INPRO_INT02_Reactor_3                               | 16:32 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INPRO_INT02_Reactor_4                               | 11:19 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INPRO_INT02_Reactor_5                               | 13:27 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO Junio15 Integracion Solucion: 1/2 Reactor    | 13:10 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO Junio15 Integracion Solucion: 2/2 Separacion | 15:56 | ENG | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO SIM01 Example 01a Compresor                  | 07:57 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO SIM02 PFD                                    | 09:24 | ENG | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO SIM02 Cost Estimation ENGLISH                | 09:55 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO SIM02 Cost Estimation SPANISH                | 16:23 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO SIM05 PropertyMethod                         | 11:04 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO SIM05 HeatIntegration                        | 16:46 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | INTPRO Torres rigurosas                             | 11:23 | ENG | <a href="https://you">https://you</a> | Análisis de Procesos Químicos con Simuladores | 1 | Máster Ingeniería Química    | SI            | NO | YouTube (Libre)              | NO  |
| Esther ALONSO SÁNCHEZ       | PROP M&M_Example 02: N2+Ethane+Butane VLE           | 05:57 | ESP | <a href="https://uva">https://uva</a> | Operaciones unitarias industriales            | 3 | Grado Ingeniería Química     | SI            | NO | Campus Virtual (Alumnos Uva) | NO  |
| María Dolores BERMEJO RODA  | t9_2_1  | 26:16 | ESP | <a href="https://www">https://www</a> | Tecnología Química                            | 1 | Máster Ingeniería Industrial | SI (2 grupos) | NO | YouTube (oculto)             | Comentarios de buena aceptación en encuesta Uva |
|                             | Video Introducción asignatura de reactores          | 24:28 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | Video BM y BE en RDTA                               | 18:00 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | Video RDTA Volumen no constante                     | 06:43 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | Video Optimización del RDTA                         | 12:09 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | Video reactor semicontinuo                          | 22:31 | ESP | <a href="https://you">https://you</a> |   |   |                              |               |    |                              |   |
|                             | Video BM y BE CSTR                                  |       |     |                                       |   |   |                              |               |    |                              |   |

|                         |  |       |     |   |                           |   |                          |    |    |                       |  |
|-------------------------|--|-------|-----|---|---------------------------|---|--------------------------|----|----|-----------------------|--|
|                         | Vídeo CSTR en serie  | 25:24 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo CSTR no estacionario                                 | 08:56 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo CSTR Estabilidad de Estados Estacionarios            | 16:15 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo CSTR Dinámica y Mapa de fases                        | 17:41 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo Reactor Tubular BM y BE                              | 42:47 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo reactor Tubular con recirculación                    | 18:51 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo comparación de reactores Ideales                     | 15:56 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Cinética Sólido fluido catalítica (I) Procesos Químicos:   | 10:33 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Cinética Sólido fluido catalítica (II) Transporte externo: | 16:14 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Cinética Sólido fluido catalítica (III) Difusión interna:  | 16:22 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Cinética Sólido- Fluido no catalítica:                     | 23:15 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo reactor de lecho fijo                                | 16:23 | ESP | <a href="https://www">https://www</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo lecho fluidizado:                                    | 19:58 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Vídeo de reactores liquido-gas:                            | 18:35 | ESP | <a href="https://you">https://you</a>     |                           |   |                          |    |    |                       |  |
|                         | Teoría Absorción   | 24:51 | ESP | <a href="https://www">https://www</a>     | Cálculo y                 | 3 | Grado Ingeniería Química | SI | SI | YouTube (oculto)      | Comentarios de buena aceptación en encuesta Uva  |
|                         | Ejemplo de Absorción                                       | 08:26 | ESP | <a href="https://www">https://www</a>     | diseño de                 |   |                          |    |    |                       |  |
|                         | Ejemplo Ec. Kremser  | 03:33 | ESP | <a href="https://www">https://www</a>     | operaciones de            |   |                          |    |    |                       |  |
|                         | Problema Absorción   | 10:27 | ESP | <a href="https://www">https://www</a>     | separación                |   |                          |    |    |                       |  |
|                         | Cuestión absorción   | 11:44 | ESP | <a href="https://www">https://www</a>     |                           |   |                          |    |    |                       |  |
|                         | Problema de Rectificación                                  | 14:46 | ESP | <a href="https://www">https://www</a>     |                           |   |                          |    |    |                       |  |
| Silvia BOLADO RODRÍGUEZ | absorcion_relleno_final                                    | 32:22 | ESP | <a href="https://drive">https://drive</a> | Cálculo y                 | 3 | Grado Ingeniería Química | SI | NO | Kalture (Alumnos Uva) | Valoración "muy positiva" en reuniones de evaluación del Comité Académico del Grado con los alumnos. |
|                         | tema4-rectificacion-final                                  | 28:50 | ESP | <a href="https://drive">https://drive</a> | Diseño de                 |   |                          |    |    |                       |  |
|                         | tema4_intro  | 05:36 | ESP | <a href="https://drive">https://drive</a> | Operaciones de Separación |   |                          |    |    |                       |  |
|                         | equilibrio-cinetica  | 15:14 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | equilibrio-cinetica  | 36:39 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | tema4-tm-entero  | 15:05 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | extraccion_tema2   | 22:46 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | psicrometria_entero  | 34:46 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | cambio-escala  | 22:57 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | adsorbentes  | 19:14 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | intercambio  | 17:11 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |
|                         | operacion-fijo   | 17:45 | ESP | <a href="https://drive">https://drive</a> |                           |   |                          |    |    |                       |  |



|                      |   |                        |  |                                       |   |   |                             |    |    |                              |    |
|----------------------|---|------------------------|--|---------------------------------------|---|---|-----------------------------|----|----|------------------------------|----|
|                      | membranas   | 30:51                  | ESP                                    | <a href="https://cdn">https://cdn</a> |   |   |                             |    |    |                              |    |
|                      | Tema 8am - Destilación Flash                          | 48:13                  | ESP                                    | <a href="https://cdn">https://cdn</a> |   |   |                             |    |    |                              |    |
| Raúl MUÑOZ TORRE     | Design of WWTP  | 10:14                  | ENG                                    | <a href="https://uva">https://uva</a> | Simulación de procesos de gestión y tratamiento de la contaminación | 1 | Máster Ingeniería Ambiental | SI | NO | Campus Virtual (Alumnos Uva) | NO |
| Sara I. PÉREZ ELVIRA | Tema_3-1_Introducción                                 | 06:46                  | ESP                                    | <a href="https://uva">https://uva</a> | Tecnología Ambiental y de Procesos                                  | 1 | Grados II                   | SI | NO | Campus Virtual (Alumnos Uva) | NO |
|                      | Tema_3-2_Caracterización                              | 23:40                  | ESP                                    | <a href="https://uva">https://uva</a> | Tecnología Ambiental y de Procesos                                  | 1 | Grados II                   | SI | NO | Campus Virtual (Alumnos Uva) | NO |
|                      | Tema_3-3_Tratamientos_físicos                         | 12:57                  | ESP                                    | <a href="https://uva">https://uva</a> | Tecnología Ambiental y de Procesos                                  | 1 | Grados II                   | SI | NO | Campus Virtual (Alumnos Uva) | NO |
|                      | Tema_3-4_Tratamientos_químicos                        | 07:28                  | ESP                                    | <a href="https://uva">https://uva</a> | Tecnología Ambiental y de Procesos                                  | 1 | Grados II                   | SI | NO | Campus Virtual (Alumnos Uva) | NO |
| Mónica COCA SANZ     | TAP (1 GII) SEDIMENTACION COMPLETO                    | 13:31                  | ESP                                    | <a href="https://uva">https://uva</a> | Tecnología Ambiental y de Procesos                                  | 1 | Grados II                   | NO | SI | NO                           | NO |
| Mar PEÑA MIRANDA     | Tema 3. Tecnología de tratamiento de aguas residuales | 28:31                  | ESP                                    | <a href="https://uva">https://uva</a> | Tecnología Ambiental y de Procesos                                  | 1 | Grados II                   | NO | SI | NO                           | NO |
| <b>14 Profesores</b> | <b>123 Vídeos</b>                                     | <b>27 h<br/>54 min</b> | <b>84 ESP<br/>39 ENG<br/>(31% ENG)</b> |                                       |   |   |                             |    |    |                              |    |